# TRANSPORTATION CONCEPT REPORT
# STATE ROUTE 86
## 11-IMP-86 P.M. R0.0 - 67.8
## 8-RIV-86 P.M. 0.0 - R23.0



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## EXECUTIVE SUMMARY

State Route 86 (SR-86) is a north-south State highway facility serving Imperial and Riverside Counties. SR-86 begins at State Route 111 (SR-111) (P.M. IMP R0.0) near the U.S./Mexico International Border, and extends 146.12 kilometers (km) (90.8 miles ) northward (roughly parallel to SR-111) along the western shore of the Salton Sea, terminating at Avenue 46 (P.M. RIV 22.8) in the City of Indio. A portion of a new SR-86 highway facility has been constructed on a new alignment from Avenue 58 (P.M. RIV R15.2) to Interstate 10 (I-10) (P.M. RIV R23.0) and is designated SR-86-S. The remaining portion of the new SR-86 facility, from Avenue 82 (P.M. RIV R2.2) to Avenue 58 (P.M. RIV R15.2), will be constructed on a previously adopted alignment. The existing SR-86 facility, which runs parallel and to the west of SR-86-S and the adopted alignment, will be relinquished upon completion of the new SR-86 facility.

SR-86 intersects several State routes along its alignment, including Interstate 8 (I-8) (P.M. IMP 6.0), and State Route 78 (east junction SR-78) (P.M. IMP 20.6). SR-86 continues north and northwest sharing the SR-78 roadbed for 37.01 km (23 miles) before reaching the west junction of SR-78 (P.M. IMP 43.6). SR-86 then continues north crossing the Imperial County/Riverside County line (P.M. IMP 67.8), intersecting SR-195 (P.M. RIV 3.1) and SR-111 (P.M. RIV 20.5), terminating at Avenue 46 (P.M. RIV 22.8) in the City of Indio. SR-86-S begins at Avenue 58 (P.M. RIV R15.2) near the City of Coachella and terminates at I-10 (P.M. RIV R23.0).

The primary purpose of SR-86 is to provide north-south access for interregional, intraregional, and international travel. SR-86 is the primary north-south route for interregional travel throughout Imperial County and the eastern Coachella Valley portion of Riverside County. SR-86 provides for intraregional travel between the Imperial and eastern Coachella Valley regions, and provides for intercity travel between several of the region's largest cities: Mexicali, Calexico, El Centro, Brawley, and Indio.

SR-86 is the primary travel corridor for the movement of goods being shipped into the Los Angeles area from the Imperial and eastern Coachella Valleys. SR-86 also serves as a connection to distribution centers and consumers throughout the United States for goods being shipped into the United States from Mexico. SR-86 is the principal route used by Imperial and Coachella Valley agricultural producers for the distribution of agricultural products, providing access for many of the area's agricultural support facilities.

Table S-1 shows the existing operating conditions for SR-86. Existing conditions are segmented for analysis and reflect 1993 data.

## TABLE S-1
### EXISTING OPERATING CONDITIONS

| | Segment/ County Post-Mile | Location | No. Lanes/ Facility Type | ADT | Peak Hour V/C Ratio | Peak Hour Operating LOS | U/R |
|---|---|---|---|---|---|---|---|
| 1 | IMP. R0.0 - 4.5 | SR-111 to McCabe Road | 2C | 8,800 | .38 | B | R |
| 2 | IMP. 4.5 - 6.0 | McCabe Road to I-8 | 2C | 11,600 | .50 | C | U |
| 3 | IMP. 6.0 - L7.3 | I-8 to Main Street | 4C | 19,100 | .36 | B | U |
| 4 | IMP. L7.3 - 7.3 | Main Street to Imperial Avenue | 4C | 21,100 | .40 | B | U |
| 5 | IMP. 7.3 - 8.8 | Imperial Avenue to Threshill Road | 4E | 26,200 | .43 | B | U |
| 6 | IMP. 8.8 - 11.3 | Threshill Road to 14th Street | 4E | 17,600 | .28 | A | R |
| 7 | IMP. 11.3 - 18.9 | 14th Street to County Road Route | 4E | 12,400 | .20 | A | R |
| 8 | IMP. 18.9 - 20.6 | County Road Route to East Jct. SR-78 | 4C* | 14,200 | .26 | B | U |
| 9 | IMP. 20.6 - 21.4 | East Jct. SR-78 to Urban/Rural Limit | 4C | 13,700 | .28 | B | U |
| 10 | IMP. 21.4 - 43.6 | Urban/Rural Limit to West Jct. SR-78 | 2C** | 5,500 | .27 | B | R |
| 11 | IMP. 43.6 - 56.1 | West Jct. SR-78 to Borrego Salton Seaway | 4E | 5,200 | .10 | A | R |
| 12 | IMP. 56.1 - 67.8 | Borrego Salton Seaway to Riverside County Line | 4E | 8,200 | .13 | A | R |
| 13 | RIV. 0.0 - 2.4 | Imperial County Line to Avenue 82 | 4E | 9,500 | .17 | A | R |
| 14 | RIV. 2.4 - 12.3 | Avenue 82 to Avenue 66 | 2C | 10,500 | .46 | C | R |
| 15 | RIV. 12.3 - 18.3 | Avenue 66 to Avenue 54 | 2C | 11,100 | .71 | C | R |
| 16 | RIV. 18.3 - 22.8 | Avenue 54 to Avenue 46 | 4C | 22,100 | .45 | B | U |
| ***** SR-86 S** | | | | | | | |
| | RIV. R15.2 - R18.3 | Avenue 58 to Avenue 54 | 4E | 12,000 | .20 | A | R |
| | RIV. R18.3 - R22.2 | Avenue 54 to Dillon Road | 4E | 12,000 | .20 | A | U |
| | RIV. T22.2 - R23.0 | Dillon Road to I-10 | 4F | 12,000 | .15 | A | U |

2C = Two lane conventional highway
4C = Four lane conventional highway
4E = Four lane expressway
4F = Four lane freeway
ADT = Average Daily Traffic
LOS = Level of Service
R = Rural
R/W = Right of Way
U = Urban
V/C = Volume to Capacity

* This segment is 4E from P.M. IMP. 18.9 - 19.8
** This segment is 4C from P.M. IMP. 21.4 to 21.8, 4E from P.M. IMP. 21.8 to 21.9, 2E from 21.9 to 27.2, 4C from 27.2 to 27.5, 2C from 27.5 to 42.9, and from P.M. IMP. Est. 42.9 to 43.6 the existing facility is 4E.
*** SR-86 S is a newly constructed facility parallel to existing SR-86. This facility is currently signed "Temporary SR-111".

**Transportation Concept (2015)**

The Transportation Concept for SR-86 is shown on the following page in Table S-2. Table S-2 examines the route in segments based on future route development and traffic analysis, and lists the facility type and the number of lanes for the year 2015, the Average Daily Traffic (ADT) for 2015, the Peak Hour Volume to Capacity Ratio (V/C) for 2015, the 2015 Peak Hour Operating Level of Service (LOS), the 2015 Transportation Concept LOS, and whether the segment is in a rural or urban area.

The 2015 Peak Hour Operating LOS for SR-86 is based on California Department of Transportation (Caltrans) traffic forecasts and assumes completion of the future regional transportation system. The 2015 Peak Hour Operating LOS includes all proposed State highway and regional arterial improvements. The 2015 Transportation Concept LOS is based on District 11 System Planning LOS guidelines.

The post-2015 Ultimate Transportation Corridor (UTC) describes the future right of way requirements in terms of facility type, number of lanes and right of way width in meters (m) (feet) that may be needed to accommodate corridor trips beyond the year 2015. Right of way width can be variable depending upon the dimensions of cross-sectional elements and specific circumstances which may require narrow widths. Minimum right of way width includes the roadbed, shoulder, clear recovery area, and minimum catch point distance to the cut or fill slope. Additional right of way may be required for structures, slope modifications and drainage facilities.

The number of lanes and facility type for the UTC are shown in Table S-2 on the following page. The UTC facility is based on the 1990 Imperial County Transportation Plan (ICTP), the 1993 Imperial County General Plan, the 1989 Riverside County General Plan Update, and the 1994 Southern California Association of Governments (SCAG) Regional Mobility Element (RME). The minimum right of way widths are based on standards promulgated in the Caltrans Design Manual, Section 306.1.

## TABLE S-2
### 2015 TRANSPORTATION CONCEPT

| | Segment/ County Post-Mile | Location | No. Lanes/ Facility Type | ADT | Peak Hour V/C Ratio | Peak Hour Operating LOS* | Concept LOS** | U/R | UTC/ Width |
|---|---|---|---|---|---|---|---|---|---|
| 1 | IMP. R0.0 - 4.5 | SR-111 to McCabe Road | 2C | 9,300 | .40 | B | D | R | 4C/148 |
| 2 | IMP. 4.5 - 6.0 | McCabe Road to I-8 | 4C | 22,000 | .42 | B | D | U | 4C/148 |
| 3 | IMP. 6.0 - L7.3 | I-8 to Main Street | 4C | 30,200 | .57 | C | D | U | 4C |
| 4 | IMP. L7.3 - 7.3 | Main Street to Imperial Avenue | 4C | 33,000 | .62 | C | D | U | 4C |
| 5 | IMP. 7.3 - 8.8 | Imperial Avenue to Threshill Road | 4E | 37,200 | .61 | C | D | U | 4E |
| 6 | IMP. 8.8 - 11.3 | Threshill Road to 14th Street | 4E | 25,000 | .40 | B | B | R | 4E |
| 7 | IMP. 11.3 - 18.9 | 14th Street to County Road Route | 4E | 16,900 | .27 | A | B | R | 4E |
| 8 | IMP. 18.9 - 20.6 | County Road Route to Old SR-78 | 4C*** | 17,800 | .33 | B | D | U | IC/148** |
| 9 | IMP. 20.6 - 21.4 | Old SR-78 to Urban/Rural Limit | 4C | 20,000 | .40 | B | D | U | 4C |
| 10A | IMP. 21.4 - Est. 25.4 **** | Urban/Rural Limit to New East Junction SR-78 | 4E | 6,700 | .11 | A | B | R | 4E |
| 10B | IMP. Est. 25.4 - 43.6 **** | New East Jct. SR-78 to West Jct. SR-78 | 4E | 9,500 | .19 | A | B | R | 4E |
| 11 | IMP. 43.6 - 56.1 | West Jct. SR-78 to Borrego Salton Seaway | 4E | 7,500 | .14 | A | B | R | 4E |
| 12 | IMP. 56.1 - 67.8 | Borrego Salton Seaway to IMP./RIV. County Line | 4E | 14,000 | .23 | A | B | R | 4E |
| 13 | RIV. 0.0 - R2.4 | IMP./RIV. County Line to Avenue 82 | 4E | 13,800 | .24 | A | B | R | 4E |
| 14 | RIV. R2.4 - R10.7 | Avenue 82 to Avenue 66 (SR-195)***** | 4F | 17,400 | .29 | A | B | R | 4F |
| 15 | RIV. R10.7 - Est. R18.3 | Avenue 66 (SR-195) to Avenue 54***** | 4F | 17,700 | .21 | A | B | R | 4F |
| 16 | RIV. Est. R18.3 - R23.0 | Avenue 54 to I-10***** | 4F | 44,000 | .53 | B | D | U | 4F |

2C = Two lane conventional highway
4C = Four lane conventional highway
4E = Four lane expressway
4F = Four lane freeway
ADT = Average Daily Traffic
LOS = Level of Service
R = Rural
R/W = Right of Way
U = Urban
UTC = Ultimate Transportation Corridor
V/C = Volume to Capacity

* 2015 Peak Hour Operating LOS includes provision of State highway and arterial improvements.

** Concept LOS is based on District 11 System Planning LOS guidelines.

*** Currently, this segment is 4E from P.M. IMP. 18.9 - 19..8

**** 10A and 10B will exist only in the 2015 Transportation Concept because of a future segmentation break at the new East Junction of SR-78 .The East Junction of SR-78 will change according to the 2015 Transportation Concept for SR-78 which states that SR-78 will be moved to an alternative alignment west of Brawley and west of the existing East Junction of SR-86 and SR-78. This new alignment of SR-78 will be known as the "Brawley Bypass." The junction with the old SR-78 will still remain a segmentation break for traffic analysis purposes.

***** Segments 14, 15, and 16 will be constructed on a new alignment

## Concept Rationale

The highway component of the 2015 Transportation Concept is to provide mainlane facility improvements where needed. The 2015 Transportation Concept for segments 1, 3 through 9, and 11 through 13 reflect no changes to the existing facility. However, segments 2, 10, and 14 through 16 have been identified for future highway improvements. Proposed highway improvements are shown below in a segment specific format.

**Segment 2** From McCabe Road (P.M. IMP. 4.5) to junction of I-8 (P.M. IMP. 6.0), the 2015 Transportation Concept for SR-86 consists of upgrading this section to a four-lane conventional highway.

**Segments 10A and 10B** From the Urban/Rural Limit (P.M. IMP 21.4) to approximately 1.61 km (1 mile) south of the west junction of SR-78 (P.M. IMP 43.6), the 2015 Transportation Concept for SR-86 consists of upgrading this section to a four-lane expressway, with improved shoulders and left turn pockets as needed at intersections.

**Brawley Bypass**

The 2015 Transportation Concepts for SR-86 and SR-78 also include a new east junction of SR-86/SR-78. In March 1993, Caltrans prepared a Project Study Report (PSR) for what is known as the "Brawley Bypass". The proposed improvements will consist of the construction of a new four-lane divided expressway (SR-78) on a new alignment around the city of Brawley from SR-86 to SR -111. Two conceptual alignments are discussed in the PSR, the Del Rio Alternative and the Fredricks Road Alternative. Each alignment continues southeast past Best Road and then turns south, paralleling the Rockwood Canal. The two alignments converge south of Shank Road. The new alignment then crosses existing SR-78 and rejoins SR-111 .48 km (0.3 mile) north of Mead Road. Upon the completion of the Brawley Bypass, SR-86 will use the existing joint SR-78/SR-86 facility independently.

**Segment 14** The 2015 Transportation Concept for Segment 14 includes the relinquishment of the existing SR-86 facility from Avenue 82 (P.M. RIV 2.4) to Avenue 66 (P.M. RIV 12.3) and the construction of a new four lane freeway facility on a new alignment from 0.8 km (0.5 mile) south of Avenue 82 (P.M. RIV R2.2) to Avenue 66 (P.M. RIV Est. R10.7).

**Segment 15** The 2015 Transportation Concept for Segment 15 includes the relinquishment of the existing SR-86 facility from Avenue 66 (P.M. RIV 12.3) to Avenue 54 (P.M. RIV 18.3) and the construction of a new four lane freeway facility on a new alignment from Avenue 66 (P.M. RIV R10.7) to Avenue 54 (P.M. RIV Est. R18.3).

**Segment 16** The 2015 Transportation Concept for Segment 16 includes the relinquishment of the existing SR-86 facility from Avenue 54 (P.M. RIV. 18.3) to Avenue 46 (P.M. RIV. G22.8) and the construction of a new four lane freeway facility on a new alignment from Avenue 54 (P.M. RIV. Est. R18.3) to Dillon Road (P.M. RIV. R22.2).

Construction of a four lane expressway within portions of Segments 15 and 16 from Avenue 58 (P.M. RIV. Est. 15.2) to Dillon Road (P.M. RIV. T22.2) is complete. This new facility, along with the remaining four lane freeway portion of Segment 16 from Dillon Road (P.M. RIV. T22.2) to I-10 (P.M. RIV. R23.0), is designated as "SR-86-S" and runs parallel and easterly of the existing SR-86 facility and is currently signed "Temporary SR-111".

The completion of the remaining projects within Segments 14 through 16 will provide nearly 32.19 km (20 miles) of new four lane freeway from Avenue 82

(P.M. RIV. R2.2) to I-10 (P.M. RIV. R23.0). The new facility will expedite goods movement, reduce accident rates at critical intersections, improve travel times and air quality, and improve the overall operational efficiency of SR-86 throughout the region. The existing SR-86 facility will be relinquished to the County of Riverside once the new facility is complete.

The mainlane facility improvements to SR-86, combined with the construction of the SR-78 Brawley Bypass, and planned operational and safety improvements, will facilitate interregional travel throughout the Imperial and Coachella Valleys, improve intercity and international travel between Mexico and Los Angeles, and provide an improved facility for the movement of goods throughout the region.

Additional strategies, including Transportation Demand Management (TDM), and Transportation System Management (TSM), such as park and ride facilities, should be implemented where appropriate.

### 2015 Transportation Concept Facility Improvements

Table S-3 displays the mainlane facility improvements that are part of the 2015 Transportation Concept. The Peak Hour Volume to Capacity (V/C) Ratio and Peak Hour Operating LOS listed assume completion of the proposed improvements. The 2015 Transportation Concept map on the following page graphically depicts the location of facility improvements included in the 2015 Transportation Concept for SR-86.

**TABLE S-3**
**2015 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS**

| Segment/ County Post-Mile | Location | Improvement Description/ Included in 1994 STIP | Peak Hour V/C Ratio | Peak Hour Operating LOS | Concept LOS* |
|---|---|---|---|---|---|
| 2 IMP. 4.5 - 6.0 | McCabe Road to I-8 | Upgrade from 2C to 4C/NO | .42 | B | D |
| 10A IMP. 21.4 - Est. 25.4 | Urban/Rural Limit to New East Junction SR-78 | Upgrade to 4E/YES | .11 | A | B |
| 10B IMP. Est. 25.4 - 43.6 | New East Junction SR-78 to West Junction SR-78 | Upgrade to 4E**/ YES | .19 | A | B |
| 14 RIV. R2.2 - R10.7 | Avenue 82 to Avenue 66 (SR-195) | Construct 4E on new alignment/YES<br>Upgrade from 4E to 4F/ NO | .29 | A | B |
| 15 RIV. R10.7 - Est. R18.3 | Avenue 66 (SR-195) to Avenue 54 | Construct 4E on new alignment/ YES<br>Upgrade from 4E to 4F***/ NO | .21 | A | B |
| 16 RIV. Est. R18.3 - R23.0 | Avenue 54 to I-10 | Upgrade from 4E to 4F/ NO | .53 | B | D |

2C = Two lane conventional highway
2E = Two lane expressway
4E = Four lane expressway
4F = Four lane freeway
LOS = Level of Service (For Concept facility)
STIP = State Transportation Improvements Plan
V/C = Volume to Capacity (For Concept facility)

* Concept LOS is based on District System Planning LOS guidelines for Imperial and Riverside Counties
** From P.M. IMP. Est. 42.9 to 43.6 existing facility is a 4E
*** Only P.M. RIV. 10.7 to P.M. RIV. 12.3 will be upgraded to 4F

Note: Existing facility (SR-86 S) is 4E from P.M. RIV R15.2 to P.M. RIV. R22.2, and 4F from P.M. RIV. T22.2 to P.M. RIV . R23.0

# 2015 TRANSPORTATION CONCEPT


## 2015 Transportation Concept Facility Improvements

| Segment/ County Post-Mile | Location | Improvement Description/ Included in 1994 STIP | Peak Hour V/C Ratio | Peak Hour Operating LOS | Concept LOS* |
|---|---|---|---|---|---|
| 2 IMP. 4.5-6.0 | McCabe Road to I-8 | Upgrade from 2C to 4C/No | .42 | B | D |
| 10A IMP. 21.4-Est. 25.4 | Urban/Rural Limit to New East Junction SR-78 | Upgrade from 2C/2E/4C to 4E/Yes | .11 | A | B |
| 10B IMP. Est. 25.4-43.6 | New East Junction SR-78 to West Junction SR-78 | Upgrade from 2C to 4E**/Yes | .19 | A | B |
| 14 RIV. 2.4-10.7 | Avenue 82 to Avenue 66 (SR-195) | Construct 2E (Stage I) on new alignment/Yes<br>Upgrade from 2E to 4E (Stage II)/Yes<br>Upgrade from 4E to 4F/No | .29 | A | B |
| 15 RIV. 10.7-Est. R18.3 | Avenue 66 (SR-195) to Avenue 54 | Construct 4E on new alignment/Yes<br>Upgrade from 4E to 4F***/No | .21 | A | B |
| 16 RIV. Est. R18.3-R23.0 | Avenue 54 to I-10 | Upgrade from 4E to 4F/No | .53 | B | D |

* Concept LOS is based on District System Planning LOS guidelines
** From P.M. IMP Est. 42.9 to 43.6 existing facility is 4E
*** Only P.M. RIV 10.7 to 12.3 will be upgraded to 4F

## STATEMENT OF PLANNING INTENT

The system planning process consists of three products: the District System Management Plan (DSMP), the Transportation Development Plan (TDP), and the Transportation Concept Report (TCR).

The DSMP is a strategic and policy planning document that describes how the District envisions the transportation system within the District will be maintained, managed and developed over the next 20 years and beyond. The DSMP is developed in partnership with regional and local transportation planning agencies. It describes the overall goals and policies which relate to District transportation issues. These goals and policies consider the entire transportation system, regardless of jurisdiction, and addresses all modes which provide for people, goods, and services. The DSMP summarizes 20 year planning concepts and proposed transportation improvements, and influences the development of future transportation concepts and development plans.

The TDP identifies transportation corridor improvements for the five year period following the seven year State Transportation Improvement Program (STIP). The TDP analyzes proposed system improvements in terms of two funding scenarios, timing, local and regional priorities, interregional travel and system continuity. Together, the STIP and the TDP constitute the first 12 years of the 20 year planning period and act as a benchmark for measuring progress toward attainment of the 20 year concept.

The TCR is a planning document which describes the Department's basic approach to the development of a given corridor. Considering reasonable financial constraints and projected travel demand, the TCR establishes a 20 year transportation planning concept and identifies modal transportation options needed to achieve the concept. The concept considers operating levels of service (LOS), modal facility types, and vehicle occupancy. The TCR also considers potential long term needs for the route beyond the 20 year planning period. The long term needs focus on corridor preservation, the Ultimate Transportation Corridor (UTC) and new technologies. Minimum right of way widths are also established for the UTC for all conventional highway portions of the transportation system.

The TCR is a preliminary planning phase that leads to subsequent programming and the project development process. As such, the specific proposed nature of improvements (i.e., number of lanes, access control, etc.) may change in later project development stages, with final determinations made during the Project Study Report, Project Report, and design phases.

Each TCR must be viewed as an integral part of a planned system. The TCR is based on the completion of the 20 year system. The system has been developed to meet anticipated travel demand generated from regional growth forecasts. Removal of any portion of a route from the system will adversely affect travel on parallel or intersecting routes.

The TCR is prepared by Caltrans District staff in cooperation with local and regional agencies. The TCR will be updated as necessary as conditions change or new information is obtained.

## ROUTE DESCRIPTION

State Route 86 (SR-86) is a north-south State highway facility serving Imperial and Riverside Counties. SR-86 begins at State Route 111 (SR-111) (P.M. IMP R0.0) near the U.S./Mexico International Border, and extends 146.12 km (90.8 miles) northward (roughly parallel to SR-111) along the western shore of the Salton Sea, terminating at Avenue 46 (P.M. RIV 22.8) in the city of Indio. A new State highway facility designated SR-86-S has been constructed on a new alignment from Avenue 58 (P.M. RIV R15.2) to Interstate 10 (I-10) (P.M. RIV R23.0).

SR-86 intersects several State routes along its alignment, including Interstate 8 (I-8) (P.M. IMP 6.0), and State Route 78 (east junction SR-78) (P.M. IMP 20.6). SR-86 continues north and northwest sharing the SR-78 roadbed for 37.01 km (23 miles) before reaching the west junction of SR-78 (P.M. IMP 43.6). SR-86 then continues north crossing the Imperial County/Riverside County line (P.M. IMP 67.8), intersecting SR-195 (P.M. RIV 3.1) and SR-111 (P.M. RIV 20.5). SR-86-S terminates at I-10 (P.M. RIV R23.0).

SR-86 was originally adopted into to the State highway system as Route 26 in 1915, and is described in the California State Statutes as follows: "Route 86 is from: (a) Route 111 to Route 8 near El Centro. (b) Route 8 near El Centro to Route 10 in Indio via the vicinity of Brawley." The portion of SR-86 "from SR-78 near Brawley to Route 10 in Indio" was added to the Freeway and Expressway System in 1959.

### Purpose of Route

The primary purpose of SR-86 is to provide north-south access for interregional, intraregional, and international travel. SR-86 is the primary north-south route for interregional travel throughout Imperial and southeastern Riverside Counties. SR-86 provides for intraregional travel between the Imperial and eastern Coachella Valley regions, and provides for intercity travel between several of the region's largest cities: Calexico, Mexicali, El Centro, Brawley, Coachella, and Indio.

SR-86 is one of the principal routes used by Imperial and Coachella Valley agricultural producers for the distribution of agricultural products, provides access for many of the area's agricultural support facilities. SR-86 serves as a connection to distribution centers and consumers throughout the United States for goods being shipped into the United States from Mexico. SR-86 is the primary travel corridor for the movement of goods being shipped to the Los Angeles area from the Imperial Valley and Mexico.

SR-86 also provides access to several airports throughout the region. The range of services offered at each of the airports varies from commercial freight and passenger carrier services, to local/regional general aviation and private recreational uses. A list of airports within the SR-86 corridor is provided below:

| Airport Facility | Operator | Ownership | Type of Use |
|---|---|---|---|
| Calexico International Airport | City of Calexico | Public | Commercial |
| Gral Sanchez Taboada (Mexicali International) | ASA | Mexico (Federal) | Commercial |
| NAF El Centro | U.S. Navy | Federal Government | Military |
| Imperial County Airport | City of Imperial | Public | Commercial |
| Brawley Municipal Airport | City of Brawley | Public | General Use |
| Salton Sea Airport | Private | Private | General Use |
| Thermal Airport | County of Riverside | Public | General Use |

ASA = Aeropuertos y Servicios Auxiliares is the Mexican counterpart of the U.S. Federal Aviation Administration (FAA)

Additional airports located in the region not directly accessible via SR-86 include general aviation use airports in Holtville and Calipatria. These facilities can be accessed from SR-111.

## Existing Facility Classifications

The functional classification for each segment of SR-86 is shown in Table 1 on the following page.

SR-86 is designated as a terminal access route to the National Network for Surface Transportation Assistance Act (STAA) for trucks, and is part of the Inter-regional Road System (IRRS) from the Urban Limit (P.M. IMP. 21.2) to I-10 (P.M. RIV. R23.0). SR-86 from Brawley (P.M. IMP 20.6) to the junction of I-10 in Indio (SR-86-S P.M. RIV R23.0) is included in the proposed National Highway System (NHS).

SR-86 is not on the Master Plan of State Highways Eligible for Official Scenic Highway Designation.

For maintenance programming purposes, the State highway system has been classified as Class 1, 2, and 3 highways based on the Maintenance Service Level (MSL) descriptive definitions as follows:

1) MSL 1 contains route segments in urban areas functionally classified as Interstate, Other Freeway or Expressway, or Other Principal Arterial. In rural areas, the MSL 1 designation contains route segments functionally classified as Interstate or Other Principal Arterial.

2) MSL 2 contains route segments classified as an Other Principal Arterial not in MSL 1, route segments functionally classified as minor arterials not in MSL 3, and route segments with a 2015 Transportation Concept of Maintain and Improve.

3) MSL 3 indicates a route or route segment with the lowest maintenance priority. Typically, MSL 3 contains route segments with a 2015 Transportation

Concept of Maintain Only. These are route segments functionally classified as major or minor collectors and local roads, route segments with relatively low traffic volumes and route segments being considered for relinquishment, recession, or where a new alignment will replace the existing facility. MSL 3 roads are not candidates for pavement rehabilitation but are to be maintained with maintenance funds. There is an exception if a road cannot be maintained without rehabilitation. Route segments where the District does not anticipate spending money and route segments where route continuity is necessary are also assigned an MSL 3 designation.

SR-86 is classified as MSL 2 for segments 1 and 2, and MSL 1 for segments 3 through 16. *

* The MSL classifications for SR-86 are subject to change pending an analysis of system needs based on recent functional classification revisions identified in the Intermodal Surface Transportation Efficiency Act (ISTEA).

## Route Segments

SR-86 will be examined in 16 segments for traffic analysis purposes. Table 1 lists the segments for this route and includes some of the information used as criteria for segment divisions.

**TABLE 1**
**ROUTE SEGMENTATION**

| Segment/ County Post Mile | Location | No. Lanes/ Facility Type | Rural/ Urban | Functional Classification |
|---|---|---|---|---|
| 1 IMP. R0.0 - 4.5 | SR-111 to McCabe Road | 2/Conventional | Rural | Major Collector |
| *2 IMP. 4.5 - 6.0 | McCabe Road to I-8 | 2/Conventional | Rural<br>Urban | Major Collector<br>Collector |
| 3 IMP. 6.0 - L7.3 | I-8 to Main Street | 4/Conventional | Urban | Other Principal Arterial |
| **4 IMP. L7.3 - 7.3 | Main Street to Imperial Avenue | 4/Conventional | Urban<br><br>Rural | Other Principal Arterial<br>Other Freeway/Expressway<br>Minor Arterial |
| 5 IMP. 7.3 - 8.8 | Imperial Avenue to Threshill Road | 4/Expressway | Rural | Minor Arterial |
| 6 IMP. 8.8 - 11.3 | Threshill Road to 14th Street | 4/Expressway | Rural | Minor Arterial |
| 7 IMP. 11.3 - 18.9 | 14th Street to County Road Route | 4/Expressway | Rural<br>Urban | Minor Arterial |
| ***8 IMP. 18.9 - 20.6 | County Road Route to East Jct. SR-78 | 4/Conventional | Urban | Other Freeway/Expressway<br>Other Principal Arterial |
| ****9 IMP. 20.6 - 21.4 | East Jct. SR-78 to Urban/Rural Limit | 4/Conventional | Urban | Other Principal Arterial |
| 10 IMP. 21.4 - 43.6 | Urban/Rural Limit to West Jct. SR-78 | 2/Conventional | Rural | Other Principal Arterial |
| 11 IMP. 43.6 - 56.1 | West Jct. SR-78 to Borrego Salton Seaway | 4/Expressway | Rural | Other Principal Arterial |
| 12 IMP. 56.1 - 67.8 | Borrego Salton Seaway to IMP/RIV County Line | 4/Expressway | Rural | Other Principal Arterial |
| 13 RIV. 0.0 - 2.4 | IMP/RIV County Line to Avenue 82 | 4/Expressway | Rural | Other Principal Arterial |
| *****14 RIV. 2.4 - 12.3 | Avenue 82 to Avenue 66 | 2/Conventional | Rural | Other Principal Arterial<br>Minor Arterial |
| 15 RIV. 12.3 - 18.3 | Avenue 66 to Avenue 54 | 2/Conventional | Rural | Minor Arterial |
| 16 RIV. 18.3 - G22.8 | Avenue 54 to Avenue 46 | 4/Conventional | Urban | Other Principal Arterial |
| **SR-86 S** | | | | |
| RIV. R15.2 - R18.3 | Avenue 58 to Avenue 54 | 4/Expressway | Rural<br>Urban | Other Principal Arterial<br>Other Freeway/Expressway |
| RIV. R18.3 - R22.2 | Avenue 54 to Avenue 46 | 4/Expressway | Urban | Other Freeway/Expressway |
| RIV. T22.2 - R23.0 | Dillon Road to I-10 | 4/Freeway | Urban | Other Freeway/Expressway |

*The portion of the route which is a Collector is from Horne Road (Urban/Rural Limit - P.M. IMP. 5.4) to I-8 (P.M. IMP. 6.0).

**SR-86 is Functionally Classified as Other Principal Arterial from Main Street to Adams Avenue, an Other Freeway /Expressway from Adams Avenue to Aten Road (Urban/Rural Limit), and a Minor Arterial from Aten Road (Urban/Rural Limit to Imperial Avenue.

***The Functional Classification for Segment 8 is an Other Freeway/Expressway from County Road Route (Urban/Rural Limit - P.M. IMP. 18.9) to Legion Road (P.M. IMP. 20.3), and an Other Principal Arterial from Legion Road to East Junction SR-78 (P.M. IMP. 20.6). This Segment is a four lane expressway from P.M. IMP. 18.9 - 19.8.

****This segment is 4C from P.M. IMP. 21.4 to 21.8, 4E from P.M. IMP. 21.8 to 21.9, 2E from P.M. IMP. 21.9 to 27.2, 4C from P.M. IMP. 27.2 to 27.5, 2C from P.M. IMP. 27.5 to 42.9, and from P.M. IMP. Est. 42.9 to 43.6 the existing facility is 4E.

*****The Functional Classification for Segment 14 from Avenue 81 to Avenue 66 (P.M. RIV. 12.3) is Minor Arterial.

**SR-86 S** is a newly constructed facility parallel to existing SR-86. This facility is currently signed "Temporary SR-111".

## Existing Facility

This section includes information related to the existing SR-86 facility type, existing accident concerns, and a discussion of arterial streets and transit services.

The functional classification of SR-86 varies, ranging from a two lane conventional highway (Rural Major Collector) to a four lane freeway (Rural Principal Arterial). Segments 1, 2, 10, 14 and 15 are two-lane conventional highways, Segments 3, 4, 8, 9, and 16 are four-lane conventional highways, Segments 5 through 7, and 11 through 13 are four-lane expressways. SR-86-S is a four-lane expressway from P.M. RIV R15.2 to P.M. RIV R22.2, and a four-lane freeway from P.M. RIV T22.2 to P.M. RIV R23.0.

A physical description of the existing facility in a segment-specific format is shown in Table 2.

**TABLE 2**
**EXISTING FACILITY**

| Segment | County/ Post Mile | No. Lanes & Facility Type | Lane Width* | Outside Shoulder Width | Inside Shoulder Width | Max. R/W Width | Median Width | Grade Line |
|---|---|---|---|---|---|---|---|---|
| 1 | IMP. R0.0 - 4.5 | 2C | 3.3 (11) | 2.1-3.1 (7-10) | 0 | 24.4 (80) | 0 | Flat |
| 2 | IMP. 4.5 - 6.0 | 2C | 3.4-7.3 (11-24) | 2.4 (8) | 0 | 24.4 (80) | 0-6.7 (0-22) | Flat |
| 3 | IMP. 6.0 - L7.3 | 4C | 7.3 (24) | 2.4 (8) | 0 | 24.4-61 (80-200) | 0-6.7 (0-22) | Flat |
| 4 | IMP. L7.3 - 7.3 | 4C | 7.0-7.3 (23-24) | 2.4 (8) | .3 (1) | 61 (200) | 4.9 (16) | Flat |
| 5 | IMP. 7.3 - 8.8 | 4E | 7.0 (23) | 2.1-2.4 (7-8) | .3-1.5 (1-5) | 61 (200) | 4.9-11 (16-36) | Flat |
| 6 | IMP. 8.8 - 11.3 | 4E | 7.0 (23) | 2.1-2.4 (7-8) | .6-1.5 (2-5) | 36.6-61 (120-200) | 9.6-11 (32-36) | Flat |
| 7 | IMP. 11.3 - 18.9 | 4E | 7.3 (24) | 1.8-2.4 (6-8) | .6-1.5 (2-5) | 36.6 (120) | 9.6-11 (32-36) | Flat |
| 8 | IMP. 18.9 - 20.6 | 4C** | 7.3 (24) | 2.4-3.1 (8-10) | 1.2-1.5 (4-5) | 36.6-61 (120-200) | 0-3.7 (0-12) | Flat |
| 9 | IMP. 20.6 - 21.4 | 4C | 3.7-7.3 (12-24) | 1.2-2.7 (4-9) | 1.5 (5) | 24.4-36.6 (80-120) | 0-6.7 (0-22) | Flat |
| 10 | IMP. 21.4 - 43.6 | 2C*** | 3.1-7.3 (10-24) | 1.5-4.0 (5-13) | 1.5-2.4 (5-8) | 24.4-36.6 (80-120) | 0-21 (0-69) | Flat |
| 11 | IMP. 43.6 - 56.1 | 4E | 3.7-7.3 (12-24) | 2.4-4.0 (8-13) | 1.5-2.4 (5-8) | 36.6 (120) | 21-21.3 (69-70) | Flat |
| 12 | IMP. 56.1 - 67.8 | 4E | 3.7-7.3 (12-24) | 2.4-4.0 (8-13) | 1.2-1.5 (4-5) | 36.6 (120) | 0-21.3 (0-70) | Flat |
| 13 | RIV. 0.0 - R2.4 | 4E | 3.7 (12) | 1.8-4.0 (6-13) | 0 | 36.6 (120) | 0 | Flat |
| 14 | RIV 2.4 - 12.3 | 2C | 3.1-5.5 (10-18) | 1.8-3.4 (6-11) | 0 | 36.6 (120) | 0 | Flat |
| 15 | RIV 12.3 - 18.3 | 2C | 3.1-4.9 (10-16) | 1.2-4.0 (4-13) | 0 | 36.6 (120) | 0 | Flat |
| 16 | RIV 18.3 - G22.8 | 4C | 3.7-7.3 (2-24) | 1.2-3.1 (4-10) | 0-1.5 (0-5) | 36.6 (120) | 3.7-6.7 (12-22) | Flat |
| ****** SR-86 S** | | | | | | | | |
| | RIV R15.2 - R18.3 | 4E | 3.7 (12) | 3.1 (10) | 1.5 (5) | 68.1 (224) | 14.3 (47) | Flat |
| | RIV R18.3 - R22.2 | 4E | 3.7 (12) | 3.1 (10) | 1.5 (5) | 68.1 (224) | 14.3 (47) | Flat |
| | RIV T22.2 - R23.0 | 4F | 3.7 (12) | 3.1 (10) | 1.5 (5) | 68.1 (224) | 14.3 (47) | Flat |

C = Conventional Highway
E = Expressway
R/W - Right of Way

* Directional Travelway widths
** This segment is 4E from P.M. IMP. 18.9 to 19.2.
** This segment is 4C from P.M. IMP. 21.4 to 21.8, 4E from P.M. IMP. 21.8 to 21.9, 2E from 21.9 to 27.2, 4C from 27.2 to 27.5, 2C from 27.5 to 42.9, and from P.M. IMP. Est. 42.9 to 43.6 the existing facility is 4E.
**** SR-86 S is a newly constructed facility parallel to existing SR-86. This facility is currently signed "Temporary SR-111".

Note: Widths are in meters
( ) Widths in feet

Average accident data for the three year period from February 1, 1991 to February 1, 1994 was analyzed for SR-86. Criteria used for determining an accident concern are based on whether actual total accident rates exceeded expected total accident rates by one and one half times. Average accident data for segments of concern are listed in Table 3. For segments where a concern exists, safety improvements will be considered.

## TABLE 3
### ACCIDENTS PER MILLION VEHICLE MILES

| Segment | Actual Total | Expected Total |
|---|---|---|
| 5 | 3.23 | 2.04 |
| 9 | 4.29 | 2.80 |

There are several arterial streets that parallel or intersect SR-86 that could provide alternative routes for travel. Major arterials that parallel or intersect SR-86 are listed in Table 4. However, due to physical inadequacies and access conflicts, some of these streets may fail to provide an efficient alternative to SR-86. In such instances, improvements to these facilities may be required by local agencies if necessary.

## TABLE 4
### ARTERIAL STREETS IN THE SR-86 CORRIDOR

| Segment | Arterial Name | Description | I/P* |
|---|---|---|---|
| 2 | McCabe Road | Silsbee Road to Orchard Road | I/P |
| 1 - 6 | La Brucherie Road | Kubler Road to Worthington Blvd. (S-28) | P |
| 1 - 7 | Austin Road | McCabe Road to SR-86 (Near Brawley) | P |
| 1 - 8 | Dogwood Road | Heber Road to SR-78 | P |
| 2 - 9 | Forrester Road (S-30) | McCabe Road to SR-78/86 | P |
| 6 | Worthington Road | Huff Road to Holt Road (S-32) | I |
| 8 | Andre Road | Hovely Road to SR-78/86 (Via Garvey Road) | I |
| 8 | Fredricks Road | Loveland Road to SR-111 | I |
| 9 | Bannister Road | Forrester Road to SR-86 | P |
| 11 - 12 | Borrego Salton Seaway | Borrego Springs to SR-86 | I |
| 13 - 15 | Pierce Street (SR-195) | SR-86 to Avenue 52 | P |
| 14 - 15 | 66th Avenue | Jackson Avenue to Hayes Street | I |
| 16 | Avenue 52 | Washington Street to SR-111 | I |
| 16 | Jackson Street | Avenue 66 to I-10 | P |
| 16 | Jefferson Street | 58th Street to I-10 | P |
| 16 | Madison Street | Avenue 60 to Indio Boulevard | P |
| 16 | Washington Street | Avenue 52 to I-10 | P |
| 16 | Airport Blvd. | Jefferson Street to Pierce Street | I |
| 16 | Dillon Road | Grapefruit Boulevard to Worsley Road | I |
| 16 | Fred Waring Drive | Monterey Avenue to Indio Boulevard | P |

* P = Parallel
I = Intersect

The Imperial County Transit System (ICT) provides transit services to Imperial Valley communities along the SR-86 corridor, including Calexico, El Centro and Brawley. ICT also offers weekly trips north to Salton City (via SR-86) along the western side of the Salton Sea, and to Niland and Bombay Beach (via SR-111) along the eastern side of the Salton Sea.

The Riverside County Transportation Commission (RCTC) provides transit service throughout the Coachella Valley through its contractor, the Sunline Transit Agency. The Sunline Transit Agency service, known as the "Sunbus", operates daily between Palm Springs and Mecca, with stops in Cathedral City, Palm Desert, Indio and Coachella.

Greyhound/Trailways Bus Company provides intercity bus service between Los Angeles, San Diego, Phoenix and El Paso. Greyhound has stops along the SR-86 corridor throughout the Imperial and eastern Coachella Valleys, including stops in Calexico, El Centro, and Indio.

AMTRAK provides transcontinental passenger rail service from Los Angeles to Miami, Florida, with east and westbound trains stopping in Indio three times a week. Eastbound trains depart the Indio station Monday, Wednesday, and Friday at 1:25 AM, with westbound trains arriving in Indio on Wednesday, Friday, and Monday at 3:29 AM. The AMTRAK station at Indio is located in the Southern Pacific (SP) maintenance yard, near the intersection of Indio Boulevard and Jackson Street. There are no ticketing or checked baggage facilities on site.

Bicycle travel is allowed on all State expressways and conventional highways unless specifically prohibited by appropriate signage. In addition, some freeway shoulders are also open for bicycles when alternative bike routes are not available. In Imperial County and the Coachella Valley region of Riverside County, the General Plan Circulation Elements for cities such as El Centro, Brawley, Coachella, and Indio include a system of bicycle paths, lanes and routes provided for bicycle commuters, students and recreational bicyclists.

The city of Brawley has applied for a Proposition 116 Non-Urban Bicycle Program funding allocation. The State grant will be used to construct .4 mile of new Class I bike path, upgrade 12.71 km (7.9 miles) of the existing Class II bike route (including pavement rehabilitation, striping, and signage), and purchase 25 bike racks for installation at various locations. The project is consistent with elements of earlier bicycle route plans, and will conform to Caltrans Highway Design Manual (Figure 1003.2A) standards.

The District 11 Multimodal Planning Branch will be conducting an analysis of existing bicycle facilities within Imperial County during fiscal year (FY) 1994-95. The analysis will consist of an inventory study of State highway facilities that either allow bicycle travel or are currently designated as bicycle lanes, paths, or routes.

It should be noted that usage of bicycle facilities within the SR-86 corridor in most cases is limited to three seasons due to the temperature extremes prevalent in the region in the summertime.

There are no Caltrans operated Park and Ride facilities located within the SR-86 corridor. However, there may be a Park and Ride included in the proposed Calexico East Port of Entry (POE) facility, which will be located 10.46 km (6.5 miles) east of Calexico. In addition, the Riverside County General Plan Circulation Element proposes the provision of Park and Rides associated with new development projects. The location and funding of Park and Ride lots will be based on several criteria, including type and size of development, number of trips generated, and proximity to State highways, major arterials and transit services.

## ROUTE ANALYSIS

This section further discusses existing conditions and introduces future Post-1994 State Transportation Improvement Program (STIP)/No Build conditions and deficiencies for SR-86. 2015 No Build conditions and deficiencies only take into account those improvement projects which are included in the 1994 STIP. The STIP includes all improvements planned for the next seven years. This section also includes a land use/corridor growth and demographic analysis for existing and future conditions in this corridor.

### Existing and Future Operating Conditions

Table 5 on the following page shows existing, future 2000 No Build and future 2015 No Build operating conditions for SR-86. Existing conditions reflect 1993 data. The future conditions are based on California Department of Transportation (Caltrans) traffic forecasts and are for planning purposes only. Future conditions also assume the completion of only those projects in the 1994 STIP.

# TABLE 5
## EXISTING AND FUTURE (NO BUILD) OPERATING CONDITIONS

| Segment/ County Post-Mile | Year | No. Lanes/ Facility Type | ADT | PHV | Peak Hour V/C Ratio | Peak Hour Operating LOS |
|---|---|---|---|---|---|---|
| 1. IMP. R0.0 - 4.5 | 1993 | 2C | 8,800 | | .38 | B |
| | 2000 | 2C | 9,000 | | .39 | B |
| | 2015 | 2C | 9,300 | | .40 | B |
| 2. IMP. 4.5 - 6.0 | 1993 | 2C | 11,600 | | .50 | C |
| | 2000 | 2C | 13,300 | | .57 | B |
| | 2015 | 4C | 22,000 | | .42 | B |
| 3. IMP. 6.0 - L7.3 | 1993 | 4C | 19,100 | 800 | .36 | B |
| | 2000 | 4C | 23,400 | 1,000 | .44 | B |
| | 2015 | 4C | 30,200 | 1,200 | .57 | C |
| 4. IMP. L7.3 - 7.3 | 1993 | 4C | 21,100 | 900 | .40 | B |
| | 2000 | 4C | 25,500 | 1,100 | .48 | C |
| | 2015 | 4C | 33,000 | 1,300 | .62 | C |
| 5. IMP. 7.3 - 8.8 | 1993 | 4E | 26,200 | 1,100 | .43 | B |
| | 2000 | 4E | 27,000 | 1,200 | .44 | B |
| | 2015 | 4E | 37,200 | 1,400 | .61 | C |
| 6. IMP. 8.8 - 11.3 | 1993 | 4E | 17,600 | 700 | .28 | A |
| | 2000 | 4E | 20,400 | 900 | .32 | A |
| | 2015 | 4E | 25,000 | 1,000 | .40 | B |
| 7. IMP. 11.3 - 18.9 | 1993 | 4E | 12,400 | 500 | .20 | A |
| | 2000 | 4E | 12,900 | 500 | .20 | A |
| | 2015 | 4E | 16,900 | 600 | .27 | A |
| 8. IMP. 18.9 - 20.6 | 1993 | 4C* | 14,200 | 600 | .26 | B |
| | 2000 | 4C* | 16,300 | 600 | .29 | B |
| | 2015 | 4C* | 17,800 | 600 | .33 | B |
| 9. IMP. 20.6 - 21.4 | 1993 | 4C | 13,700 | 600 | .28 | B |
| | 2000 | 4C | 15,800 | 700 | .31 | B |
| | 2015 | 4C | 20,000 | 800 | .34 | B |
| ** 10. IMP. 21.4 - 43.6 | 1993 | 2C*** | 5,500 | | .27 | B |
| | 2000 | 4E | 6,100 | 300 | .12 | A |
| | 2015 | 4E | 9,500 | 300 | .19 | A |
| 11. IMP. 43.6 - 56.1 | 1993 | 4E | 5,200 | 200 | .10 | A |
| | 2000 | 4E | 6,000 | 200 | .11 | A |
| | 2015 | 4E | 7,500 | 200 | .14 | A |
| 12. IMP. 56.1 - 67.8 | 1993 | 4E | 8,200 | 300 | .13 | A |
| | 2000 | 4E | 9,400 | 200 | .15 | A |
| | 2015 | 4E | 14,000 | 300 | .23 | A |
| 13. RIV. 0.0 - R2.4 | 1993 | 4E | 9,500 | 300 | .17 | A |
| | 2000 | 4E | 10,600 | 300 | .19 | A |
| | 2015 | 4E | 13,800 | 300 | .24 | A |
| 14. RIV. R2.4 - 12.3 | 1993 | 2C | 10,500 | | .46 | C |
| RIV. R2.4 - R10.7 | 2000 | 4E | 12,100 | 300 | .20 | A |
| | 2015 | 4F | 17,400 | 400 | .29 | A |
| 15. RIV 12.3 - 18.3 | 1993 | 2C | 11,100 | 400 | .71 | C |
| RIV. R10.7 - Est. R18.3 | 2000 | 4E | 12,800 | 500 | .21 | A |
| | 2015 | 4F | 17,700 | 600 | .21 | A |
| 16. RIV 18.3 - 23.0 | 1993 | 4C | 22,100 | 900 | .45 | B |
| RIV Est. 18.3 - R23.0 | 2000 | 4E | 25,200 | 1,000 | .44 | B |
| | 2015 | 4F | 44,000 | 1,200 | .53 | C |
| ****** SR-86 S** | | | | | | |
| RIV. R15.2 - R18.3 | 1993 | 4/E | 12,000 | | .20 | A |
| RIV. R18.3 - R22.2 | 1993 | 4/E | 12.,000 | | .20 | A |
| RIV. T22.2 - R23.0 | 1993 | 4F | 12,000 | | .15 | A |

2C = Two lane conventional highway
4C = Four lane conventional highway
ADT = Average Daily Traffic
LOS = Level of Service
PHV = Peak Hour Volume (One Way)
STIP = State Transportation Improvement Program
V/C = Volume to Capacity

* This segment is 4E from P.M. IMP. 18.9 - 19.8.

** The 2015 Transportation Concept for SR-86 includes the construction of the "Brawley Bypass". Upon completion , the existing Segment 10 will be divided into two sub-segments (Segments 10A and 10B). Segments 10A and 10B and the corresponding projected traffic volumes are shown in Table S-2 and Table 11.

*** This segment is 4C from P.M. IMP. 21.4 to 21.8, 4E from 21.8 to 21.9, 2E from 21.9 to 27.2, 4C from 27.2 to 27.5, 2C from 27.5 to 42.9, and from 42.9 to 43.6 the existing facility is 4E.

**** SR-86 S is a newly constructed facility parallel to existing SR-86 and is currently signed "Temporary SR-111". 2000 and 2015 traffic projections are based on the completion of SR-86 on its previously adopted alignment, and the relinquishment of existing Segments 14, 15, and 16.

## Corridor Growth and Demographics

The Imperial and eastern Coachella Valleys possess some of the most fertile and productive agricultural growing areas in the United States, and are among the nations top producers of agricultural products (and agriculture related industry). The historical success of the Imperial and eastern Coachella Valleys as leaders in the agricultural industry is based on the availability and abundance of water. The Imperial and eastern Coachella Valley farmlands are supported by one of the largest man-made irrigation complexes in the western hemisphere, the All American Canal, and its subsidiary waterways. The Coachella Valley also possesses natural aquifers which provide plentiful amounts of groundwater contributing to the success of both the agriculture and resort industries.

Imperial Valley agricultural interests (major crops) include cotton, sugar beet, alfalfa (for hay), safflower, lettuce, and vegetable crops such as asparagus, broccoli, and carrots. The Imperial Valley is also a well known cattle feeding area, with average annual revenues associated with cattle feeding activities totaling more than 220 million dollars. This accounts for more than 20 percent of Imperial County's annual gross revenues for agricultural commodities, which total over 1 billion dollars.

The Coachella Valley is the nations' largest producer of dates. The town of Indio holds an annual date festival which attracts upwards of a quarter of a million visitors. In addition to dates, other agricultural interests (crops) prevalent in the eastern Coachella Valley include grapes, citrus, and sweet corn.

In addition to agricultural areas, there are many popular recreational activity areas located throughout Imperial and eastern Riverside County. The Salton Sea State Recreational Area is a popular attraction for both recreational boating and fishing. There are several recreational vehicle parks such as at Glamis and Gordons Well which are extremely popular with offroad enthusiasts. During the winter months, as many as 75,000 people per weekend travel to these areas to drive off road vehicles, motorcycles, and all terrain vehicles in the rugged desert terrain.

A wildlife preserve is located at the southern edge of the Salton Sea, which offers visitors an opportunity to observe native plant and animal species in their natural habitat. Seasonal hunting of quail, duck, pheasant, chucker, geese, and dove is permissible throughout the Imperial Valley farmlands. Numerous mineral deposits lie exposed throughout the Imperial Valley, providing an attraction to hikers, collectors of archeological and geological artifacts, and outdoor enthusiasts. SR-86 also provides access to the Anza-Borrego Desert State Park and the Imperial Sand Dunes, and provides an important link for travel into Mexico and the Gulf of California.

The Coachella Valley is well known for possessing some of North America's finest resort complexes, including several world class golf courses. This area is extremely popular in the winter months for people traveling from other areas of the country searching for relief from cold, inclement weather.

The following section describes the cities within Imperial and Riverside Counties that are located adjacent to the SR-86 corridor. Included is a discussion of existing population, housing, employment, and land use characteristics. In addition, this section also addresses future local and regional growth trends anticipated within the SR-86 corridor.

## Imperial County

### Calexico

The City of Calexico is located south of the southern terminus of SR-86 along the U.S./Mexico International Border, 193.12 km (120 miles) east of the City of San Diego. The City of Calexico covers approximately 10.36 square kilometers (km2) (four square miles) (however, Calexico's sphere of influence covers 36.26 km2 (14 square miles). Calexico had a 1992 population of 20,066, and is experiencing an estimated average annual population increase of just over three (3) percent. Land uses within Calexico's incorporated boundaries include 456.5 hectare (ha) (1,128 acres) for residential use, 65.97 ha (163 acres) for commercial use, 34.4 ha (85 acres) for industrial use, and the remaining hectares (acreage) allocated to agricultural/open space use.

Much of Calexico's recent growth can be attributed to the presence of the maquiladora[1] manufacturing plants in Calexico and across the U.S./Mexico International Border in Mexicali, Baja California, Mexico. The maquiladoras provide labor-intensive manufacturing services for U.S. based industries and are becoming more attractive to U.S. businesses trying to remain competitive in the current economic climate. The continued productivity of the Imperial Valley as one of the nation's top producers of agricultural products and agriculture related industry will also play an important role in Calexico's future growth trends.

Of equal importance to Calexico's growth rate is adequate housing availability. Currently, the demand for housing within Calexico exceeds supply. This is reflected in the very low vacancy rate within the City of Calexico. In addition, the Mexican government estimates that there could be a minimum of 10,000 legal U.S. resident households residing in Mexicali.

Employment in Calexico is growing steadily as the population increases. With the development of Mexicali as a premier industrial city, this employment growth should continue. Calexico is certain to benefit from the presence of the maquiladoras and their potential expansion. This projected economic growth, along with the implementation of the North American Free Trade Agreement (NAFTA), should provide a stimulus to the Calexico and Imperial Valley economy.

[1] A maquiladora is a twin plant assembly operation which has a counterpart on both sides of the border. The maquiladora program allows for the duty-free importation of component parts for assembly in Mexico; the assembled product must be exported to the firm's counterpart plant outside Mexico.

The existing Calexico Port of Entry (POE) is the second busiest U.S./Mexico International Border crossing in California, and is the third busiest POE in the entire United States. In 1992, the Calexico POE processed a northbound total of 7.8 million pedestrians, 7.9 million private vehicles, and 145,000 commercial trucks. These figures represent a 21 percent increase (over 1990 figures) in pedestrian crossings, and a 2 to 5 percent increase over the last five years in private vehicle and commercial truck crossings. Overall, the Calexico POE experienced an average growth rate (number of border crossings) of 18.3 percent from 1986 to 1990. This was the most rapid growth rate of any of the major U.S./Mexico Border Ports of Entry for that time period. The United States General Services Administration (GSA) has determined that this facility is overburdened and is operating beyond its capacity.

Table 6 provides a historical perspective on the number of border crossings at Calexico.

**TABLE 6**
**NORTH-BOUND BORDER CROSSINGS: 1977, 1984 AND 1992**

| | 1977 | 1984 | 1992 |
|---|---|---|---|
| **U.S. Citizens** | 3,608,339 | 3,898,674 | 7,612,112 |
| **Non-U.S. Citizens** | 11,360,609 | 12,277,039 | 23,232,000 |
| **Calexico Totals** | 14,968,948 | 16,175,713 | 30,844,112 |

Source: Draft U.S/Mexico Border Port Profile-Barton/Aschmann Associates

As shown in Table 6, the number of border crossings at the Calexico POE continue to rise. In addition, increases in the amount of goods being transported into the United States are expected to occur, making highway and POE improvements in this region a high priority. A new POE located 10.46 km. (6.5 miles) east of Calexico is under construction and will accommodate the increased number of trucks, automobiles, and pedestrians coming into the United States. Also proposed for this location is the construction of a new State Highway, State Route 7 (SR-7). SR-7 will initially provide a link between the new Calexico East POE, a commercial vehicle inspection facility, and State Route 98 (SR-98), and, will eventually be extended north to I-8. Construction of the new POE and the initial segment of SR-7 (New Calexico East POE to SR-98) is scheduled for completion in mid 1995, with the new commercial vehicle inspection facility scheduled for completion by the end of 1995.

## Mexicali

The City of Mexicali is located directly south of Calexico across the U.S./Mexico International Border. Mexicali, the capital of Baja California, Mexico, had a 1990 population of 601,938 according to 1990 Census figures. This represents a 17.9 percent population increase since 1980.

The economy of Mexicali is historically centered around the agricultural industry, with Mexicali serving as the principal agricultural area within the State of Baja California. Major crops include grains, vegetables, and cotton. Mexicali also has approximately 1200 industrial plants, 5,000 commercial businesses, and 125 service firms which, along with governmental and university employment, make up the remaining employment base for the city's economic infrastructure.

Mexicali's economy has recently been stimulated by the development of maquiladora industrial plants. Mexicali currently has the third largest number of maquiladora plants along the U.S./Mexico border. The 131 maquiladoras in Mexicali employ and estimated 10 percent of the total workforce.

Mexico is also providing infrastructure to accommodate the region's future travel and trade increases. These infrastructure improvements are also intended to entice development by creating improved access to land, goods and services located along the U.S./Mexico border region.

The construction of a four lane limited access (toll road) from Tijuana to Mexicali, roughly parallel to Mexico's Federal Highway 2, is currently underway. The segment from Tijuana to Tecate was completed in December 1992, with the construction of the segment from Tecate to Mexicali scheduled for completion in December 1994. Mexico's Federal Highway 5 also provides access to Mexicali and the Calexico POE.

**El Centro**

The City of El Centro is located along I-8, approximately 193.12 km. (120 miles) from downtown San Diego. El Centro had a 1992 population of 34,517, making it the most populous city in Imperial County. El Centro has historically experienced a relatively slow rate of growth, with an annual average population increase of 2 percent.

El Centro's economy differs somewhat from the rest of Imperial County's agriculturally based economy. As the County seat of Imperial, El Centro's economy is dominated by professional and related services (approximately 30 percent of workforce), followed by retail trade and public administration. There is a substantial amount of public-sector employment, with El Centro serving as the headquarters for the County of Imperial's administrative offices. In addition, several City, State, and Federal government offices are located in downtown El Centro.

**Imperial**

The City of Imperial is located approximately 8.05 km. (5 miles) north of El Centro, and had a 1993 population of 6,000 people. The area within the city limits covers 1,011.75 ha (2,500 acres), however, Imperial's sphere of influence encompasses 4,047 ha (10,000 acres). Imperial became the Imperial Valley's first incorporated city in 1904, and has remained one of the main focal points for area activities, hosting the California mid-winter fair and the annual sweet onion festival, and, is the home of the Imperial Valley College.

The City of Imperial is the headquarters of the Imperial Irrigation District (IID). The IID is the sixth largest power utility in California and one of the largest irrigation districts in the world. IID provides jobs for more than 1,100 people, services irrigation water to nearly 202,350 ha (500,000 acres) of fertile farmland, and generates and distributes electricity to a 17,457.84 km2 (6,741 square mile) area.

Imperial is one the County's fastest growing cities, with the population expected increase 9.7 percent annually through 1998, and at a 3 percent annual rate of growth thereafter. Imperial's economy depends primarily of agriculture. However, future developments in the city will also focus on the construction of light industry, housing, and shopping centers.

**Brawley**

The City of Brawley, located approximately 19.31 km (12 miles) north of the City of Imperial, had a 1992 population of 20,100 ranking it as the second largest city in Imperial County in terms of popoulation. Brawley has historically experienced a relatively slow rate of growth, with an annual average population increase of 2.5 percent.

Brawley's economy, as is most of Imperial County's other smaller incorporated cities and unincorporated communities, is based primarily on agriculture and agriculture related industry. Government (public-sector), retail trade, and service related employment make up the remaining elements of Brawley's economic infrastructure.

The remaining incorporated cities within Imperial County (Calipatria, Holtville, and Westmorland) make up approximately 12 percent of the county-wide population. The remaining 25 percent of the population reside in the unincorporated communities of Bombay Beach, Heber, Niland, Ocotillo, Palo Verde, Seeley, Winterhaven and the Salton City area. Most of these communities provide local services through single or multi-purpose special districts. The types of local services provided may be limited to water treatment for domestic use, however, some communities also provide sewage treatment, fire protection, and park maintenance.

**Riverside County/Eastern Coachella Valley Region**

**Coachella**

The City of Coachella is located in the eastern Coachella Valley Region of Riverside County. Coachella had a 1992 population of 18,450, and, up until recent years, has experienced a relatively slow rate of growth with an annual average population increase of less than three percent.

Coachella's economy is based primarily on agriculture and agriculture related industry, and has remained removed from the influx of tourism and resort development characterized by many of the Coachella Valley's other cities.

However, the City of Coachella is an important element in the overall fabric of the Coachella Valley. Coachella has evolved into an important location for moderately priced housing that is affordable to many of the workers who work in, or provide services to, the resort areas and retail/service related businesses north of the city.

Considerable growth is expected to occur in the resort areas north of the city in the next twenty years. In addition, there is also the potential for increased agricultural production in the fertile growing grounds to the south. These factors will likely contribute to increased population and employment within the City of Coachella within the twenty year planning period.

**Indio**

The City of Indio is located in the eastern Coachella Valley Region of Riverside County, approximately 193.12 km (120 miles) directly east of Los Angeles. Indio had a 1992 population of 40,378, making it the second largest city (in terms of population), next to Palm Springs, in the Coachella Valley. Since the 1960's, Indio has consistently experienced a high rate of growth, and, from 1980-1990, the total population increased by 15,182 persons, an increase of over 70 percent. This steady rate of growth can be attributed, in part, to the continued productivity of the Coachella Valley as one of the nations most fertile and productive agricultural areas in the nation, and, to the development of the eastern Coachella Valley as one of the nations leading resort areas. In addition, Indio is centrally located within the Coachella Valley, placing it near the major transportation links of I-10, SR-86, SR-111, the Southern Pacific Railroad (for rail freight and AMTRAK passenger service), and several regional airports.

Indio's economy is based primarily on retail trade, with employment support from the construction industry, local service industry, and local government (public-sector) employment.

Considerable growth is anticipated for Indio's economic infrastructure within the next ten to twenty years. This growth, along with the diversification of the manufacturing industry, and growth in the hotel and motel industry, should provide Indio with the solid economic base necessary to provide public services and infrastructure needs to accommodate projected population increases. In addition, the construction of new housing units is expected to increase substantially to accommodate the increase in population. However, as the population increases, the permanent residency/occupancy rate is expected to decline slightly due to the addition of the new, amenity related developments proposed to capture some of the tourist/resort related business from other Coachella Valley resort areas.

Emphasis will be given to Indio's ability to compete with other Coachella Valley resort areas such as Palm Desert and Palm Springs, with plans to add an additional 1200 hotel rooms by 2020. Additional emphasis will be given to the development of the Shadow Hills area. Plans for this area include a mix of residential areas, community and neighborhood retail centers, recreational areas (such as golf courses, tennis courts, and recreation centers), potential

development of a destination resort complex with lodging and recreational amenities, and the possible location of a California State University campus. Another potential resort development is the recently annexed Indio Ranchos area, which contains a large number of polo fields and equestrian activity areas.

In addition to Indio's efforts to capture some of the employment growth opportunities associated with the resort areas of other Coachella Valley cities, Indio will attempt to strengthen and diversify its manufacturing and commercial industry base by the creation of the Coachella Valley Enterprise Zone Authority (CVEZA). The CVEZA, a joint powers authority between the Cities of Indio and Coachella and the County of Riverside, will establish a 10,959.28 ha. (27,080 acre) enterprise zone covering major portions of prime real estate located in and around the Cities of Indio and Coachella. The CVEZA proposes a range of incentives designed to encourage new development and to encourage investment in existing infrastructure, goods, and services.

Table 7 on the following page lists current and future housing and population data for the area adjacent to SR-86 in Imperial and Riverside Counties.

# TABLE 7
## HOUSING AND POPULATION GROWTH

| Location | Year | Dwelling Units | Percent Change From Base Year | Population | Percent Change From Base Year |
|---|---|---|---|---|---|
| **Imperial County** | | | | | |
| Calexico | 1992 | 5,518 | - | 20,066 | - |
| | 2000 | 7,655 | 38 | 26,484 | 32 |
| | 2010 | 10,655 | 48 | 43,043 | 115 |
| El Centro | 1992 | 10,974 | - | 34,517 | - |
| | 2000 | 14,581 | 33 | 47,965 | 39 |
| | 2010 | 21,585 | 49 | 71,000 | 106 |
| Imperial | 1992 | 1,465 | - | 4,475 | - |
| | 2000 | 3,160 | 116 | 10,000 | 123 |
| | 2010 | 4,200 | 187 | 13,000 | 190 |
| Brawley | 1992 | 6,377 | - | 20,112 | - |
| | 2000 | 8,923 | 40 | 26,770 | 33 |
| | 2010 | 12,701 | 99 | 35,404 | 76 |
| Westmorland | 1992 | 462 | - | 1,463 | - |
| | 2000 | 1,000 | 116 | 1,700 | 16 |
| | 2010 | 1,000 | 116 | 2,034 | 40 |
| **Imperial County Total: (SR-86 Corridor)** | 1992 | 24,796 | - | 81,233 | - |
| | 2000 | 35,319 | 42 | 112,919 | 39 |
| | 2010 | 50,141 | 102 | 164,481 | 102 |
| **Eastern Coachella Valley** | | | | | |
| Coachella | 1990 | 3,713 | - | 18,450 | - |
| | 2000 | 5,378 | 45 | 23,331 | 26 |
| | 2010 | 8,826 | 138 | 36,263 | 97 |
| Indio | 1990 | 6,616 | - | 40,378 | - |
| | 2000 | 10,747 | 62 | 49,456 | 22 |
| | 2010 | 14,335 | 167 | 66,226 | 64 |
| **Eastern Coachella Valley Total: (SR-86 Corridor)** | 1990 | 10,329 | - | 58,828 | - |
| | 2000 | 16,125 | 56 | 72,787 | 23 |
| | 2010 | 23,161 | 124 | 102,489 | 74 |

2010 housing and population projections are based on IVAG, CVAG, County of Imperial, County of Riverside and City of Indio growth projections.

Table 8 shows current and future employment growth for Imperial and Riverside County located within the SR-86 corridor.

## TABLE 8
### EMPLOYMENT GROWTH

| Area | Year | Total Employment | Percent Change From Base Year |
|---|---|---|---|
| **Imperial County** | | | |
| Calexico | 1992 | 6,075 | - |
| | 2000 | 6,260 | 3 |
| | 2010 | 7,312 | 17 |
| El Centro | 1992 | 12,825 | - |
| | 2000 | 17,000 | 33 |
| | 2010 | 21,700 | 69 |
| Imperial | 1992 | 2,000 | - |
| | 2000 | 4,000 | 100 |
| | 2010 | 6,000 | 200 |
| Brawley | 1992 | 7,525 | - |
| | 2000 | 8,869 | 18 |
| | 2010 | 10,560 | 40 |
| **Imperial County Total: (SR-86 Corridor)** | 1992 | 28,425 | - |
| | 2000 | 36,129 | 27 |
| | 2010 | 45,572 | 60 |
| **Eastern Coachella Valley** | | | |
| Coachella | 1990 | 3,675 | - |
| | 2000 | 7,358 | 100 |
| | 2010 | 12,721 | 346 |
| Indio | 1990 | 13,379 | - |
| | 2000 | 18,020 | 35 |
| | 2010 | 22,890 | 71 |
| **Eastern Coachella Valley Total: (SR-86 Corridor)** | 1992 | 17,054 | - |
| | 2000 | 25,378 | 49 |
| | 2010 | 35,611 | 108 |

Source: IVAG, CVAG, County of Riverside and County of Imperial

Proposed major developments that will generate at least 2,000 daily trips are shown in Table 9. Additional traffic generators in the area adjacent to SR-86 could significantly increase congestion on area surface streets and the State highway.

**TABLE 9**
**TRIP INDUCING MAJOR DEVELOPMENT PROJECTS**

| Segment | Proposed Development | Dwelling Units | Hectare (Acreage) | Trips Generated Daily |
|---|---|---|---|---|
| 1 | Abatti/Heber Subdivision | 221 | 19.02 (47) | 2,210 |
| 1 | Heber Wood Estates | 512 | 64.75 (160) | 6,000 |
| 2 | Countryside Subdivision | 400 | | 4,000 |
| 3 | Villa Park Subdivision | 224 | | 2,240 |
| 5 | Northgate West | - | 29.95 (74) | 28,300 |
| 7 | Citrus View North | 272 | 23.47 (58) | 2,720 |
| 8 | Brawley K-Mart | - | 7.69 (19) | 13,370 |
| 9 | Parkside Estates | 368 | 65.16 (161) | 3,680 |
| 9 | Parkside North | - | 80.94 (200) | 2,000 |
| 15 | Goldman Subdivision | - | 2.02 (5) | 5,856 |
| 16 | Rancho Coachella Vineyards | 1085 | | 10,850 |
| 16 | Coachella Valley Shopping Center | - | .40 (1) | 2,524 |
| 16 | Rancho Frontera Subdivision | 837 | 65.97 (163) | 16,294 |
| 16 | SCW Enterprises | - | 6.07 (15) | 6,000 |
| 16 | Woodspur Apartments | 396 | 3.24 (8) | 2,376 |
| SR-86-S (P.M. R22.2) | Coachella Shopping Center | - | 105.22 (260) | 7,440 |

Source: District 11 Planning Studies Branch, County of Imperial

There are several additional factors not included in the 2015 traffic analysis that could potentially induce growth within the SR-86 corridor. The 1993 Imperial County General Plan Update identifies several Specific Plan Areas (SPA) within the county that could have an effect on future operating conditions on SR-86 and other State Highway facilities. The intent of the General Plan in regard to the SPA is to ensure that future development occurring within the designated areas is in conformance with the County 's General Plan Land Use Element. Any new developments proposed within the SPA must have an approved Specific Plan prior to commencement of development activities. Table 10 on the following page lists the SPA most likely to have an effect on future operating conditions of SR-86.

## TABLE 10
### IMPERIAL COUNTY SPECIFIC PLAN AREAS (SR-86 CORRIDOR)

| Segment | Imperial County Specific Plan Areas | Type of Development |
|---|---|---|
| 1 | East Border Crossing SPA | Commercial/Retail/Services |
| 1 | CM Ranch SPA | Recreation/Residential |
| 1 | Heber SPA | Mixed Use |
| 7-8 | Tamarack Canyon Ranch SPA | Resort |
| 7-8 | Mesquite Lake SPA | Light-Medium-Heavy Industrial |

Source: County of Imperial General Plan

Additional developments, though only conceptual at this time, that could potentially induce growth include the expansion of the international airport at Calexico, expansion of the Centinela State Correctional facility near Seeley, and growth in geothermal industrial activities in the Salton Sea region west of Calipatria and southwest of Niland.

## TRANSPORTATION CONCEPT (2015)

The 2015 Transportation Concept is composed of two parts: 1) a minimum tolerable LOS for the peak hours, 2) a description of the physical facility necessary to accommodate that LOS.

The 2015 Transportation Concept is determined by a detailed analysis of each route. Factors that are influential in the selection process include land use, terrain, travel characteristics, relative importance of the route, relationship to other routes, urban or rural areas, political acceptance, functional classification, ADT, safety, and cost of improvements. Additionally the 2015 Transportation Concept includes the future implementation of intermodal and Transportation System Management (TSM) improvements. These items are discussed in subsequent sections of this report. The 2015 Transportation Concepts have been approved by the District and reflect a reasonable expectation of accomplishment rather than unattainable aspirations.

In Imperial and Riverside Counties, the 2015 Transportation Concept LOS is set at LOS D for most segments. High Level Connections, such as I-8, have a 2015 Transportation Concept LOS of B in the rural areas. In accordance with the 1994 Caltrans District 11 System Management Plan (DSMP), the system development strategy for Imperial and eastern Riverside County emphasizes the provision of a high-level north/south Expressway connection between the U.S./Mexico International border and I-10. This connection includes improvements to SR-86 from the SR-78/SR-86 junction in Brawley to I-10. Therefore, the 2015 Transportation Concept for this portion of SR-86 is LOS "B".

Table 11 on the following page shows the specific 2015 Transportation Concept facility type and 2015 Transportation Concept LOS for all segments of SR-86. The 2015 Peak Hour Operating LOS is based on Caltrans traffic forecasts.

The post-2015 UTC describes the future right of way requirements in terms of the facility type and the number of lanes and the minimum right of way in meters (feet ) that may be needed to accommodate corridor trips beyond the year 2015.

# TABLE 11
## 2015 TRANSPORTATION CONCEPT

| | Segment/ County Post-Mile | Location | No. Lanes/ Facility Type | ADT | Peak Hour V/C Ratio | Peak Hour Operating LOS* | Concept LOS** | U/R | UTC/ Width |
|---|---|---|---|---|---|---|---|---|---|
| 1 | IMP. R0.0 - 4.5 | SR-111 to McCabe Road | 2C | 9,300 | .40 | B | D | R | 4C/148 |
| 2 | IMP. 4.5 - 6.0 | McCabe Road to I-8 | 4C | 22,000 | .42 | B | D | U | 4C/148 |
| 3 | IMP. 6.0 - L7.3 | I-8 to Main Street | 4C | 30,200 | .57 | C | D | U | 4C |
| 4 | IMP. L7.3 - 7.3 | Main Street to Imperial Avenue | 4C | 33,000 | .62 | C | D | U | 4C |
| 5 | IMP. 7.3 - 8.8 | Imperial Avenue to Threshill Road | 4E | 37,200 | .61 | C | D | U | 4E |
| 6 | IMP. 8.8 - 11.3 | Threshill Road to 14th Street | 4E | 25,000 | .40 | B | B | R | 4E |
| 7 | IMP. 11.3 - 18.9 | 14th Street to County Road Route | 4E | 16,900 | .27 | A | B | R | 4E |
| 8 | IMP. 18.9 - 20.6 | County Road Route to Old SR-78 | 4C*** | 17,800 | .33 | B | D | U | 4C/148** |
| 9 | IMP. 20.6 - 21.4 | Old SR-78 to Urban/Rural Limit | 4C | 20,000 | .40 | B | D | U | 4C |
| 10A | IMP. 21.4 - Est. 25.4 **** | Urban/Rural Limit to New East Junction SR-78 | 4E | 6,700 | .11 | A | B | R | 4E |
| 10B | IMP. Est. 25.4 - 43.6 **** | New East Jct. SR-78 to West Jct. SR-78 | 4E | 9,500 | .19 | A | B | R | 4E |
| 11 | IMP. 43.6 - 56.1 | West Jct. SR-78 to Borrego Salton Seaway | 4E | 7,500 | .14 | A | B | R | 4E |
| 12 | IMP. 56.1 - 67.8 | Borrego Salton Seaway to RIV. County Line | 4E | 14,000 | .23 | A | B | R | 4E |
| 13 | RIV. 0.0 - R2.4 | Imperial County Line to Avenue 82 | 4E | 13,800 | .24 | A | B | R | 4E |
| 14 | RIV. R2.4 - R10.7 | Avenue 82 to Avenue 66 (SR-195)***** | 4E | 17,400 | .29 | A | B | R | 4E |
| 15 | RIV. R10.7 - Est. R18.3 | Avenue 66 (SR-195) to Avenue 54***** | 4F | 17,700 | .21 | A | B | R | 4F |
| 16 | RIV. Est. R18.3 - R23.0 | Avenue 54 to I-10***** | 4F | 44,000 | .53 | B | D | U | 4F |

2C = Two lane conventional highway
4C = Four lane conventional highway
4E = Four lane expressway
4F = Four lane freeway
ADT = Average Daily Traffic
LOS = Level of Service
R = Rural
R/W = Right of Way
U = Urban
UTC = Ultimate Transportation Corridor
V/C = Volume to Capacity

* 2015 Peak Hour Operating LOS includes provision of State highway and arterial improvements.

** Concept LOS is based on District 11 System Planning LOS guidelines.

*** Currently, this segment is 4E from P.M. IMP. 18.9 - 19..8

**** 10A and 10B will exist only in the 2015 Transportation Concept because of a future segmentation break at the new East Junction of SR-78 .The East Junction of SR-78 will change according to the 2015 Transportation Concept for SR-78 which states that SR-78 will be moved to an alternative alignment west of Brawley and west of the existing East Junction of SR-86 and SR-78. This new alignment of SR-78 will be known as the "Brawley Bypass." The junction with the old SR-78 will still remain a segmentation break for traffic analysis purposes.

***** Segments 14, 15, and 16 will be constructed on a new alignment

The District 11 Transportation Concept Map on the following page shows the improvements included as part of the 2015 Transportation Concept.

# 2015 TRANSPORTATION CONCEPT


## 2015 Transportation Concept Facility Improvements

| Segment/ County Post-Mile | Location | Improvement Description/ Included in 1994 STIP | Peak Hour V/C Ratio | Peak Hour Operating LOS | Concept LOS* |
|---|---|---|---|---|---|
| 2 IMP. 4.5-6.0 | McCabe Road to I-8 | Upgrade from 2C to 4C/No | .42 | B | D |
| 10A IMP. 21.4-Est. 25.4 | Urban/Rural Limit to New East Junction SR-78 | Upgrade from 2C/2E/4C to 4E/Yes | .11 | A | B |
| 10B IMP. Est. 25.4-43.6 | New East Junction SR-78 to West Junction SR-78 | Upgrade from 2C to 4E**/Yes | .19 | A | B |
| 14 RIV. 2.4-10.7 | Avenue 82 to Avenue 66 (SR-195) | Construct 2E (Stage I) on new alignment/Yes<br>Upgrade from 2E to 4E (Stage II)/Yes<br>Upgrade from 4E to 4F/No | .29 | A | B |
| 15 RIV. 10.7-Est. R18.3 | Avenue 66 (SR-195) to Avenue 54 | Construct 4E on new alignment/Yes<br>Upgrade from 4E to 4F***/No | .21 | A | B |
| 16 RIV. Est. R18.3-R23.0 | Avenue 54 to I-10 | Upgrade from 4E to 4F/No | .53 | B | D |

* Concept LOS is based on District System Planning LOS guidelines
** From P.M. IMP Est. 42.9 to 43.6 existing facility is 4E
*** Only P.M. RIV 10.7 to 12.3 will be upgraded to 4F

**CONCEPT RATIONALE**
**Highway Component**

The highway component of the 2015 Transportation Concept is to provide mainlane facility improvements where needed. The 2015 Transportation Concept for segments 1, 3 through 9, and 11 through 13 reflect no changes to the existing facility. However, segments 2, 10, and 14 through 16 have been identified for future highway improvements. Proposed highway improvements are shown below in a segment specific format.

**Segment 2** From McCabe Road (P.M. IMP. 4.5) to junction of I-8 (P.M. IMP. 6.0), the 2015 Transportation Concept for SR-86 consists of upgrading this section to a four-lane conventional highway.

**Segments 10A and 10B** From the Urban/Rural Limit (P.M. IMP 21.4) to approximately 1.61 km (1 mile) south of the west junction of SR-78 (P.M. IMP 43.6), the 2015 Transportation Concept for SR-86 consists of upgrading this section to a four-lane expressway, with improved shoulders and left turn pockets as needed at intersections.

**Brawley Bypass**

The 2015 Transportation Concepts for SR-86 and SR-78 also include a new east junction of SR-86/SR-78. In March 1993, Caltrans prepared a Project Study Report (PSR) for what is known as the "Brawley Bypass". The proposed improvements will consist of the construction of a new four-lane divided expressway (SR-78) on a new alignment around the city of Brawley from SR-86 to SR -111. Two conceptual alignments are discussed in the PSR, the Del Rio Alternative and the Fredricks Road Alternative. Each alignment continues southeast past Best Road and then turns south, paralleling the Rockwood Canal. The two alignments converge south of Shank Road. The new alignment then crosses existing SR-78 and rejoins SR-111 .48 km (0.3 mile) north of Mead Road. Upon the completion of the Brawley Bypass, SR-86 will use the existing joint SR-78/SR-86 facility independently.

**Segment 14** The 2015 Transportation Concept for Segment 14 includes the relinquishment of the existing SR-86 facility from Avenue 82 (P.M. RIV 2.4) to Avenue 66 (P.M. RIV 12.3) and the construction of a new four lane freeway facility on a new alignment from 0.8 km (0.5 mile) south of Avenue 82 (P.M. RIV R2.2) to Avenue 66 (P.M. RIV Est. R10.7).

**Segment 15** The 2015 Transportation Concept for Segment 15 includes the relinquishment of the existing SR-86 facility from Avenue 66 (P.M. RIV 12.3) to Avenue 54 (P.M. RIV 18.3) and the construction of a new four lane freeway facility on a new alignment from Avenue 66 (P.M. RIV R10.7) to Avenue 54 (P.M. RIV Est. R18.3).

**Segment 16** The 2015 Transportation Concept for Segment 16 includes the relinquishment of the existing SR-86 facility from Avenue 54 (P.M. RIV. 18.3) to Avenue 46 (P.M. RIV. G22.8) and the construction of a new four lane freeway

facility on a new alignment from Avenue 54 (P.M. RIV. Est. R18.3) to Dillon Road (P.M. RIV. R22.2).

Construction of a four lane expressway within portions of Segments 15 and 16 from Avenue 58 (P.M. RIV. Est. 15.2) to Dillon Road (P.M. RIV. T22.2) is complete. This new facility, along with the remaining four lane freeway portion of Segment 16 from Dillon Road (P.M. RIV. T22.2) to I-10 (P.M. RIV. R23.0), is designated as "SR-86-S" and runs parallel and easterly of the existing SR-86 facility and is currently signed "Temporary SR-111".

The completion of the remaining projects within Segments 14 through 16 projects will provide nearly 32.19 km (20 miles) of new four lane freeway from Avenue 82 (P.M. RIV. R2.2) to I-10 (P.M. RIV. R23.0). The new facility will expedite goods movement, reduce accident rates at critical intersections, improve travel times and air quality, and improve the overall operational efficiency of SR-86 throughout the region. The existing SR-86 facility will be relinquished to the County of Riverside once the new facility is complete.

The mainlane facility improvements to SR-86, combined with the construction of the SR-78 Brawley Bypass, and planned operational and safety improvements, will facilitate interregional travel throughout the Imperial and Coachella Valleys, improve intercity and international travel between Mexico and Los Angeles, and provide an improved facility for the movement of goods throughout the region.

Additional strategies, including Transportation Demand Management (TDM), and Transportation System Management (TSM), such as park and ride facilities, should be implemented where appropriate.

**Transit and Arterial Component**

Currently, there is no passenger rail service to Calexico. However, the Riverside County Transportation Commission (RCTC) conducted the Los Angeles, Coachella Valley, Imperial County Intercity Rail Feasibility Study. The study recommends the implementation of intercity passenger rail service on existing rail rights of way between Los Angeles, Riverside and Imperial County. Passenger rail service would be extended south from Los Angeles via the Southern Pacific (SP) Yuma main line to Niland, at which point it would turn south on the SP El Centro and Calexico branch line, making stops in Brawley, El Centro and Calexico. Use of the existing SP El Centro Line for passenger rail service (previously used for freight service) will require extensive track rehabilitation (and/or reconstruction). In addition, grade crossing and signal improvements will be necessary to accommodate higher operating speeds. Caltrans Division of Rail (DOR) is currently studying this corridor as a follow up to the RCTC study.

In addition to improvements to the State highway facility, the Transportation Concept for SR-86 calls for greater utilization of arterial street capacity within the corridor. The existing arterial network consists of two and four lane surface streets which have been previously listed in the Existing Facility section of this report. Capacity of existing arterials within the corridor is affected by physical

inadequacies, access conflicts, numerous traffic signals, and general congestion. Expansion and improvements to the existing arterial system will increase the overall operational performance of transportation system for shorter, intraregional trips, and in some cases, provide an alternative route for regional trips.

Arterial street improvements have been identified in several documents, most notably the Imperial County Transportation Plan (ICTP), the Coachella Valley Transportation Project Prioritization Study (TPPS), and the SCAG 1993 RTIP. Funding sources for these projects include State and federal highway capital funds, and regional fund sources such as the 1988 Riverside County Measure A sales tax initiative and the Uniform Transportation Mitigation Fee Ordinance.

There is still a need to develop a comprehensive transportation circulation element study in the Calexico area to provide a more balanced system of arterial streets.

Table 12 identifies arterial system improvements within or adjacent to the SR-86 corridor.

## TABLE 12
### TRANSPORTATION CONCEPT ARTERIAL IMPROVEMENTS

| Segment | Facility | Location | Project Description |
|---|---|---|---|
| | **Imperial County** | | |
| 1 | Fifth Street | Eady Avenue to Kloke Avenue | Construct 2 Lane Facility |
| 1 | Encinas Avenue | Seventh Avenue to SR-98 | Construct 4 Lane Facility |
| 4 | South Eastern Avenue | Main Street to Milan Street | Add 2 Lanes |
| 4 | Malan Street | Eastern Avenue to SR-111 | Widen and Reconstruct |
| 5 | Clark Road | .80 km. (0.5 Mile )North of El Centro City Limits to Aten Road | Widen to 4 Lanes |
| 5 | La Brucherie Road | El Centro to Imperial | Widening |
| 5 | Dogwood Road | El Centro to Aten Road | Widening |
| 5 | County Airport | First Street | Construct Frontage Road |
| | **Eastern Coachella Valley (RIV. County)** | | |
| 15 | Airport Boulevard | Madison Street to SR-86 | Widen/Construct 4 Lanes |
| 15-16 | Madison Street | Avenue 60 to I-10 | Widen/Construct 4 Lanes |
| 16 | Rancho Coachella | Avenue 58 to Dillon Road | Widen/Construct 4 Lanes |
| 16 | Jefferson Street | Avenue 54 to I-10 | Widen/Construct 4 Lanes |
| 16 | Avenue 52 | Washington Street to SR-111 | Widen/Construct 6 Lanes |
| 16 | Washington Street | Avenue 52 to I-10 | Widen/Construct 4 Lanes |
| 16 | Avenue 48 | Washington Street To Dillon Road | Widen/Construct 4 Lanes |
| 16 | Fred Waring Drive | Cook Street to Indio Boulevard | Widen/Construct 6 Lanes |

Source: CVAG 1990 TPPS, Coachella Valley Transportation Expenditure Plan, City of Calexico General Plan and Zoning Ordinance Circulation Element, County of Imperial General Plan Circulation Element, El Centro General Plan Update EIR, SCAG 1993 RTIP.

## Goods Movement Component

SR-86 is the primary travel corridor for the movement of goods being shipped into the Los Angeles area from the Imperial and eastern Coachella Valleys. SR-86 also serves as a connection to distribution centers and consumers throughout the United States for goods being shipped into the United States from Mexico. SR-86 is the principal route used by Imperial and Coachella Valley agricultural producers for the distribution of agricultural products, providing access for many of the area's agricultural support facilities. In addition to SR-86, SR-111 traverses the Imperial and Coachella Valleys in a north/south direction on the eastern side of the Salton Sea. SR-111 also provides an important travel corridor for the movement of goods throughout the region. Several facility improvements are planned for SR-111 from I-8 north to Calipatria, with operational improvements proposed for the remainder of SR-111 to the Riverside County line.

The movement of goods via rail is also an important element of the transportation system throughout the Imperial and Coachella Valleys. The Southern Pacific Railroad Co. (SP) is the primary freight rail operator in the region. The SP transcontinental southern mainline bisects the southeastern portion of California and links the Los Angeles area to Yuma, Arizona and the eastern United States. The Calexico branch line provides a direct north/south link from the U.S./Mexico International Border at the Calexico/Mexicali POE to the SP mainline junction near Niland for goods being shipped into and from Mexico, as well as for goods being shipped interregionally to and from the Imperial and Coachella Valleys.

The crossborder movement of goods by rail into Mexico from the Imperial Valley region is via the Calexico branch line and the Ferrocarril Nacionales de Mexico (FNM), Baja California Division rail line. The FNM begins at the U.S./Mexico International Border in Mexicali, Mexico, and follows a north/south alignment into the interior of mainland Mexico. The FNM is owned and operated by the Mexican government and serves both freight and passenger rail purposes. There is a steady southbound flow of goods from the U.S. into Mexico via freight rail service, however, northbound imports from Mexico into the U.S. by rail are currently almost nonexistent due to long delays caused by U.S. Customs inspection procedures for rail cars.

In addition to the SP rail lines, the San Diego and Arizona Eastern (SD&AE) railway provides an east/west rail connection between the Imperial Valley and San Diego. However, the SD&AE rail line has been closed east of Carrizo Gorge since 1983 due to the condition of several tunnels and trestles damaged by fire, flooding, and cave-ins. Therefore, freight rail activity within the SD&AE rail corridor is currently limited to the San Diego/Tijuana/Tecate area. Freight rail operations are the responsibility of the San Diego and Imperial Valley Railroad Inc. (SD&IV). SD&IV contracts for this service with the San Diego Metropolitan Transit Development Board (SDMTDB), owners of the SD&AE rail right of way. SD&IV estimates that approximately 80 percent of its business consists of southbound exports into Mexico. Northbound imports from Mexico are limited due to restrictive U.S. Customs inspection practices. The San Diego

Association of Governments (SANDAG) is currently studying the feasibility of repairing and rehabilitating the SD&AE from Carrizo Gorge east to Plaster City.

Mechanisms need to be identified to increase the efficiency of freight rail service for both interregional and international goods movement. Improved customs facilities and inspection procedures at P.O.E. sites, the provision of intermodal cargo transfer facilities, improved telecommunications, and the implementation of IVHS technologies are examples of methods which may help to improve travel and trade flow within and beyond our international borders.

Table 13 below identifies crossborder goods movement characteristics at the existing Calexico POE.

**TABLE 13**
**CROSSBORDER GOODS MOVEMENT**
**CALEXICO POE**

| Year | N/B Truck Trips | N/B Rail Trips* | S/B Truck Trips** | S/B Rail Trips (Carloads)*** |
|---|---|---|---|---|
| 1989 | 140,162 | 244 | Unavailable | Unavailable |
| 1990 | 155,089 | 248 | Unavailable | Unavailable |
| 1991 | 122,174 | 226 | Unavailable | Unavailable |
| 1992 | 152,317 | 250 | Unavailable | 4150 |
| 1993 | 156,381 | 250 | 109,100 | 4390 |

* Northbound rail traffic is currently limited to the return of empty cars from goods previously shipped into Mexico

** Estimate based on 2 axle and above S/B truck ADT

*** Estimate based on monthly average of carloads passing through Calexico POE

Source: Caltrans District 11 System Planning, Southern Pacific Transportation Company and U.S. Customs.

There are several studies underway statewide which will identify critical elements within major goods movement corridors in order to develop an effective strategy for managing, maintaining, and improving system connectivity. Caltrans Districts 8 and 11 and the University of California Riverside Center for Environmental Research and Technology are currently preparing the "Intermodal Goods Movement Analysis for the California I-15 Corridor", a Federally funded joint venture research study. The objective is to identify existing and future deficiencies and make recommendations related to roadway capacity and air quality improvements. The study will include data collection, TRANPLAN based model development, corridor emissions analysis and inventory, and reformulated diesel fuel effects on the corridor and on the trucking industry.

Similar analyses of State highways, rail facilities, and commercial vehicle travel characteristics are recommended for the SR-86/SR-111 corridor from the Calexico P.O.E. area north to I-10 due to it's significance as a major goods movement corridor.

The "California Trade and Goods Movement" map on the following page displays the major goods movement corridors throughout the State of California. Major goods movement access points including major seaports, rail lines, and State highway corridors are also identified.


CALIFORNIA
TRADE AND
GOODS
MOVEMENT
N
Humboldt
Sacramento
San Francisco
Los Angeles
San Diego
Calexico
California
LEGEND
Major Goods Movement Access Point
Major Goods Movement Corridor
Rail Line
Major Seaport
CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 11
TRANSPORTATION PLANNING BRANCH
FEBRUARY 1995
NOT TO SCALE

**North American Free Trade Agreement (NAFTA)**

The current level of travel and trade between Mexico and the U.S. is expected to increase with the implementation of NAFTA. However, at this time it is difficult to estimate or measure the increase in commercial vehicle trips (both truck and rail). As NAFTA is implemented, established trends in traffic and trade volumes, intermodal facility needs, and crossborder transfering and inspection procedures can be analyzed to determine future impacts and to develop a method by which system improvements can be identified.

The following is a prognosis of some of the NAFTA implications that should be considered in future analyses:

- Existing trends show trade growth regardless of NAFTA;
- Non-tariff goods are expected to retain existing trends, while pre-NAFTA tariff goods should increase;
- Some commodities will be relatively stable regardless of NAFTA;
- Tariff reductions could increase shipping to/from various areas in Mexico, thus changes could occur as to the choice of U.S. POEs for export into the U.S.;
- NAFTA could accelerate the efficiency of goods distribution by allowing U.S. ownership of trucking operations in Mexico;
- A reduction of cross-border trips could result from a decline in maquiladoras;
- Job development in Mexico could result in a reduction of commuters to the U.S. border areas;
- Trade agreements are only one part of the development of commerce.

Other factors to be considered in determining trade impacts include differences in land costs, labor costs and available labor pools. These factors can be applied to regional travel models for traffic analysis and used for future studies of vehicular cross-border traffic.

To maximize the benefits of NAFTA for California, the District will continue to work with the U.S. General Services Administration (GSA), their counterparts in Mexico and the local agencies of San Diego and Imperial Counties to provide transportation services that will accommodate plans for improving existing POEs and developing new border crossing stations. The GSA has developed plans for increasing the number of new primary and secondary inspection lanes, and truck inspection docks at all POEs. Also included in the plans are the addition of new POEs, including the new Calexico East POE.

In addition, the District will work with all appropriate agencies to improve inspection methods and procedures, including weight, safety, licensing and insurance compliance inspections by the State. Future state of the art vehicle inpection and enforcement facilities will be constructed at the future Calexico East POE.

## Supplemental Systems Component

The transportation system improvements described in the Highway Component and the Transit and Arterial Component provide the basis for achieving the 2015 Transportation Concept for SR-86. However, additional concerns, such as air quality conformity regulations and District system management goals will need to be addressed in order to fully achieve the concept within the twenty year planning period. The following section describes the current air quality attainment status for the SR-86 corridor and associated strategies designed to achieve air quality attainment. A discussion of Transportation System Management (TSM) strategies and their applicability to the SR-86 corridor is also included. These strategies should be implemented as needed and where appropriate.

## AIR QUALITY

The SR-86 corridor is located within the Southeast Desert Air Basin (SEDAB). Air quality planning for the Coachella Valley portion of SEDAB is administered by the South Coast Air Quality Management District (SCAQMD), while air quality planning for Imperial County is administered through the Imperial County Air Pollution Control District (ICAPCD). The two agencies are responsible for developing air quality plans directed at meeting the National Ambient Air Quality Standards (NAAQS) set by the U.S. Environmental Protection Agency (EPA). The NAAQS identify specific pollutants and acceptable pollutant threshold levels for each region. Areas where a pollutant problem exists are classified as "non-attainment" areas. Deadlines for attainment of the NAAQS have been specified in the federal Clean Air Act (CAA).

Table 14 identifies the pollutant types, current attainment status, and the timeframes for reaching attainment of the NAAQS within the SR-86 corridor.

**TABLE 14**
**AIR QUALITY ATTAINMENT STATUS (SR-86 CORRIDOR)**

| Area | Pollutant Type/Attainment Status/Attainment Year | | | |
|---|---|---|---|---|
| | **Ozone** | **CO** | **$NO_2$** | **$PM_{10}$** |
| Coachella Valley (SCAQMD) | Severe (2007) | Attainment | Attainment | Non-attainment |
| Imperial County (ICAPCD) | Transitional | Attainment | Attainment | Non-attainment |

Ozone ($O_3$)= [Reactive Organic Compounds (ROC)+Nitrogen Oxide(NOx)+Sunlight]
CO= Carbon Monoxide
$NO_2$= Nitrogen Dioxide
$PM_{10}$= Suspended particulate matter less than 10 micrometers in diameter

The regional emissions from within the SEDAB area do not significantly affect the regional air quality. However, pollutants from the South Coast Air Basin (SCAB), which is composed of the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties, and all of Orange County, are transported via prevailing

winds into the SEDAB area. The only pollutants for which federal and/or state air quality standards have been exceeded in the SEDAB area are ozone ($O_3$) and suspended particulates ($PM_{10}$). The standards for $O_3$ are exceeded infrequently in the Coachella Valley and only a few times a year in Imperial County. $PM_{10}$ standards are exceeded primarily due to field burning and travel on unpaved roads. Refuse burning in Mexicali, Mexico, is an additional factor in the exceedence of $PM_{10}$ standards within Imperial County, particularly in the southern portion of the county. Currently, the U.S. EPA and the Secretaria de Desarollo Social (SEDSOL) have agreed to bilateral participation in a particulate study between Mexicali and Imperial County. The study will include workshops on emission survey techniques, ambient sampler operation and maintenance, meteorological measurement systems, and training in particulate pollution modeling techniques.

The SCAQMD has developed the SEDAB Air Quality Management Plan. The plan contains a multitude of possible Transportation Control Measure (TCM) air quality improvements. Some of these TCMs contain a goal of achieving a six percent reduction in vehicle miles traveled (VMT). The following mode shift control measures may help achieve this reduction:

1.) employee rideshare and transit incentives
2.) parking management
3.) merchant transportation incentives
4.) HOV lanes and other transit improvements

Other TCMs that could affect transportation/circulation in the SEDAB area include:

1.) alternative work schedules and telecommuting
2.) traffic flow improvements
3.) non-recurrent congestion
4.) freeway capacity enhancements
5.) growth management
6.) particulate reduction by paving unpaved roads and parking lots

## TRANSPORTATION SYSTEM MANAGEMENT STRATEGIES

TSM is a process oriented approach to solving transportation problems considering both long and short range implications. TSM strategies include low capital, environmentally responsive improvements that are designed to maximize the operational efficiency of existing transportation facilities. TSM projects are implemented in areas where significant recurring and non-recurring congestion problems exist. The Caltrans District 11 Long Range Operations Plan (LROP) places a high priority on the accommodation of existing and future travel demand on existing transportation facilities without increasing capacity. The LROP proposes the implementation of TSM strategies to improve rural highway operations and safety by providing spot improvements such as signal timing coordination, curve realignments, passing lanes, and turnouts. The LROP also identifies several strategies related to the safe and efficient movement of goods,

including the provision of truck brake inspection areas, runaway truck escape ramps, safety inspection sites, and the construction of separate truck and passenger vehicle inspection facilities.

## OTHER ITEMS

New methodologies can assist in providing better management of the future transportation system. Advanced technology research is one tool that can be used to improve the efficiency of the future transportation system. The "SMART" Corridor concept will employ a number of technological innovations, including in-vehicle navigation systems, computerized roadway sensors, changeable message signs, and television cameras.

## CONGESTION PRICING STUDIES

An additional strategy that should be studied in the future is congestion pricing, which is a direct market incentive to ensure that transportation system users pay the "real" costs of the transportation benefits they receive. One purpose of congestion pricing is to reduce travel demand. With the advent of technological advances such as electronic toll collection and traffic management (ETTM) and automatic vehicle identification (AVI) systems, congestion pricing could be developed for a wide variety of transportation facilities.

## COMPARISON OF CONCEPTS

The purpose of this section is to compare alternative concepts that were considered with the 2015 Transportation Concept. The 1993 Transportation Concept is compared with the original 1985 Route Concept Report (RCR) for the year 2005.

In the 1985 RCR, the Route Concept was based on Caltrans Headquarters LOS standards and District 11 traffic forecasts for the year 2005. Table 15 is comprised of a segment by segment comparison between the 1985 RCR and this current updated TCR.

### TABLE 15
**COMPARISON OF 2005 AND 2015 CONCEPTS**

| 1985 Route Concept for 2005 | | 1994 Transportation Concept for 2015 | |
|---|---|---|---|
| **Segment/ County Post- Mile** | **No. Lanes / Facility Type/ Concept LOS** | **Segment/ County/ Post-Mile** | **No. Lanes / Facility Type/ Concept LOS** |
| 1 IMP. P.M. R0.0 - 5.4 | 2C/ C | 1 IMP. R0.0 - 4.5 | 2C/D |
| 2A IMP. P.M. 5.4 - 8.8 | 4C/ D | 2 IMP. 4.5 - 6.0 | 4C/D |
| | | 3 IMP. 6.0 - L7.3 | 4C/D |
| | | 4 IMP. L7.3 - 7.3 | 4C/D |
| | | 5 IMP. 7.3 - 8.8 | 4E/D |
| 2B IMP P.M. 8.8 -18.9 | 4E/ B | 6 IMP. 8.8 - 11.3 | 4E/ B |
| | | 7 IMP. 11.3 - 18.9 | 4E/B |
| 2C IMP. P.M. 18.9 -21.4 | 4C/ D | 8 IMP. 18.9 - 20.6 | 4C/D* |
| 2D IMP. P.M. 21.4 - 42.7 | 4E/ B | 9 IMP. 20.6 - 21.4 | 4C/D |
| 2E IMP. P.M. 42.7 - 67.8 | 4E/ B | 10A IMP. 21.4 - 25.4 | 4E/B |
| | | 10B IMP. 25.4 - 43.6 | 4E/B |
| | | 11 IMP. 43.6 - 56.1 | 4E/B |
| 3A RIV. P.M. 0.0 -2.9 | 4E/ B | 12 IMP. 56.1 - 67.8 | 4E/B |
| 3B RIV. P.M. 2.9 - 18.3 | 4E-4F/ B | 13 RIV. 0.0 - R2.4 | 4E/B |
| | | 14 RIV. R2.4 - R10.7 | 4E/B |
| 3C RIV. P.M. 18.3 - 23.0 | 4F/ D | 15 RIV. R10.7 - Est. R18.3 | 4F/B |
| | | 16 RIV. Est. R18.3 - R23.0 | 4F/D |

LOS=Level of Service
2C=Two Lane Conventional Highway
4C=Four Lane Conventional Highway
4E=Four Lane Expressway
4F=Four Lane Freeway

* Currently, this segment is 4E from P.M. IMP. 18.9 - 19.8

## EXTERNAL PLANS COORDINATION

The Imperial Valley Association of Governments (IVAG) Regional Council, the Southern California Association of Governments (SCAG), and Caltrans jointly initiated the preparation of the Imperial County Transportation Plan (ICTP) in June 1988. The ICTP was adopted in June 1990 as a twenty year plan of transportation improvements for State highways in Imperial County. The 2015

Transportation Concept for SR-86 is consistent with the ICTP. Elements of the ICTP have incorporated into the SCAG Regional Mobility Element.

The 2015 Transportation Concept for SR-86 is also consistent with the County of Riverside and County of Imperial General Plans (Circulation Elements), the City of Calexico 1992 General Plan and Zoning Ordinance, the City of Brawley Community Profile, the City of Indio General Plan, the 1990 U.S. Census, the 1990 CVAG Transportation Project Prioritization Study (TPPS), the 1994 SCAG Regional Mobility Element (RME), the Caltrans District 11 Status of Projects, the 1993 Caltrans Rail Passenger Program Report, and transit plans for Amtrak, Greyhound, Imperial County Transit and Sunline Transit.

## 2015 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

Table 16 displays the mainlane facility improvements that are part of the 2015 Transportation Concept and indicates whether they are included in the 1993 STIP. The Peak Hour Volume to Capacity (V/C) Ratio and Peak Hour Operating LOS listed assume completion of the proposed improvements. These improvements are also shown on the 2015 Transportation Concept map on page 24.

### TABLE 16
### 2015 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

| Segment/ County Post-Mile | Location | Improvement Description/ Included in 1994 STIP | Peak Hour V/C Ratio | Peak Hour Operating LOS (2015) | Concept LOS* |
|---|---|---|---|---|---|
| 2 IMP. 4.5 - 6.0 | McCabe Road to I-8 | Upgrade from 2C to 4C/NO | .42 | B | D |
| 10A IMP. 21.4 - Est. 25.4 | Urban/Rural Limit to New East Junction SR-78 | Upgrade to 4E/YES | .11 | A | B |
| 10B IMP. Est. 25.4 - 43.6 | New East Junction SR-78 to West Junction SR-78 | Upgrade to 4E**/ YES | .19 | A | B |
| 14 RIV. R2.2 - R10.7 | Avenue 82 to Avenue 66 (SR-195) | Construct 4E on new alignment/YES<br>Upgrade from 4E to 4F/ NO | .29 | A | B |
| 15 RIV. R10.7 - Est. R18.3 | Avenue 66 (SR-195) to Avenue 54 | Construct 4E on new alignment/ YES<br>Upgrade from 4E to 4F***/ NO | .21 | A | B |
| 16 RIV. Est. R18.3 - R23.0 | Avenue 54 to I-10 | Upgrade from 4E to 4F/ NO | .53 | B | D |

2C = Two lane conventional highway
2E = Two lane expressway
4E = Four lane expressway
4F = Four lane freeway
LOS = Level of Service (For Concept facility)
STIP = State Transportation Improvements Plan
V/C = Volume to Capacity (For Concept facility)

* Concept LOS is based on District System Planning LOS guidelines for Imperial and Riverside Counties
** From P.M. IMP. Est. 42.9 to 43.6 existing facility is a 4E
*** Only P.M. RIV. 10.7 to P.M. RIV. 12.3 will be upgraded to 4F

Note: Existing facility (SR-86 S) is 4E from P.M. RIV R15.2 to P.M. RIV. R22.2, and 4F from P.M. RIV. T22.2 to P.M. RIV . R23.0

## ULTIMATE TRANSPORTATION CORRIDOR

The UTC describes the long term (beyond the 20 year planning period) right of way requirements for a particular segment. The long term needs are determined by Advanced Transportation System Development (ATSD) activities which include investigation and analysis of Community Plans, General Plans, Transportation Plans, Land Use Plans, Environmental Documents, and other planning documents. The intent is to take advantage of or develop opportunities for long term right of way acquisition and to work with local and regional agencies to implement corridor preservation measures. The UTC proposes the number of lanes, the facility type, and the minimum right of way width in meters (feet) for the conventional highway portions of the route. This width can be variable depending upon the dimensions of cross-sectional elements and specific circumstances which may require narrow widths. Minimum right of way width includes the roadbed, shoulder, clear recovery area, and minimum catch point distance to the cut or fill slope. Additional right of way may be required for structures, slope modifications and drainage facilities.

For SR-86, the UTC is the same as the 2015 Transportation Concept for segments 2, and 11 through 16. The UTC number of lanes and facility type is based on the 1990 ICTP, the 1993 Imperial County General Plan, the 1989 Riverside County General Plan Update, and the 1994 SCAG Draft RME. The minimum right of way width is based on standards promulgated by Caltrans Design Manual Section 306.1.

For segment 1, the UTC calls for upgrading the existing two-lane facility to a four-lane conventional highway. The ultimate facility will accommodate anticipated growth which is expected to occur near and beyond the twenty year planning horizon. In addition, upgrading Segment 1 will provide a continuous four-lane facility for SR-86 in its entirety.

For segments 3 through 10A and part of 10B (P.M. IMP. 6.0 - Est. 28.0) the UTC incorporates a study to consider the designation of Forrester Road as a State highway. According to the 1990 ICTP, Forrester Road would be taken into the State Highway System and upgraded to a four lane facility in accordance with State standards on an appropriate alignment west of the existing SR-86 facility.

For segment 10B, the UTC calls for the realignment of SR-78 near the City of Westmorland. This conceptual alignment, known as the "Westmorland Bypass", has not yet been determined. Preliminary studies support an alignment which will traverse to the south and west of the existing alignment of SR-78/SR-86. This new alignment will proceed around Westmorland until it rejoins SR-86 near the terminus of the "Brawley Bypass."

The Forrester Road study area and the Westmorland Bypass are considered Category III long range projects (beyond 2015) in the 1990 ICTP.

Table 17 shows the facility type, the number of lanes, and minimum right of way widths for the UTC for SR-86. Figure 2 on the following page graphically depicts the UTC.

## TABLE 17
### ULTIMATE TRANSPORTATION CORRIDOR

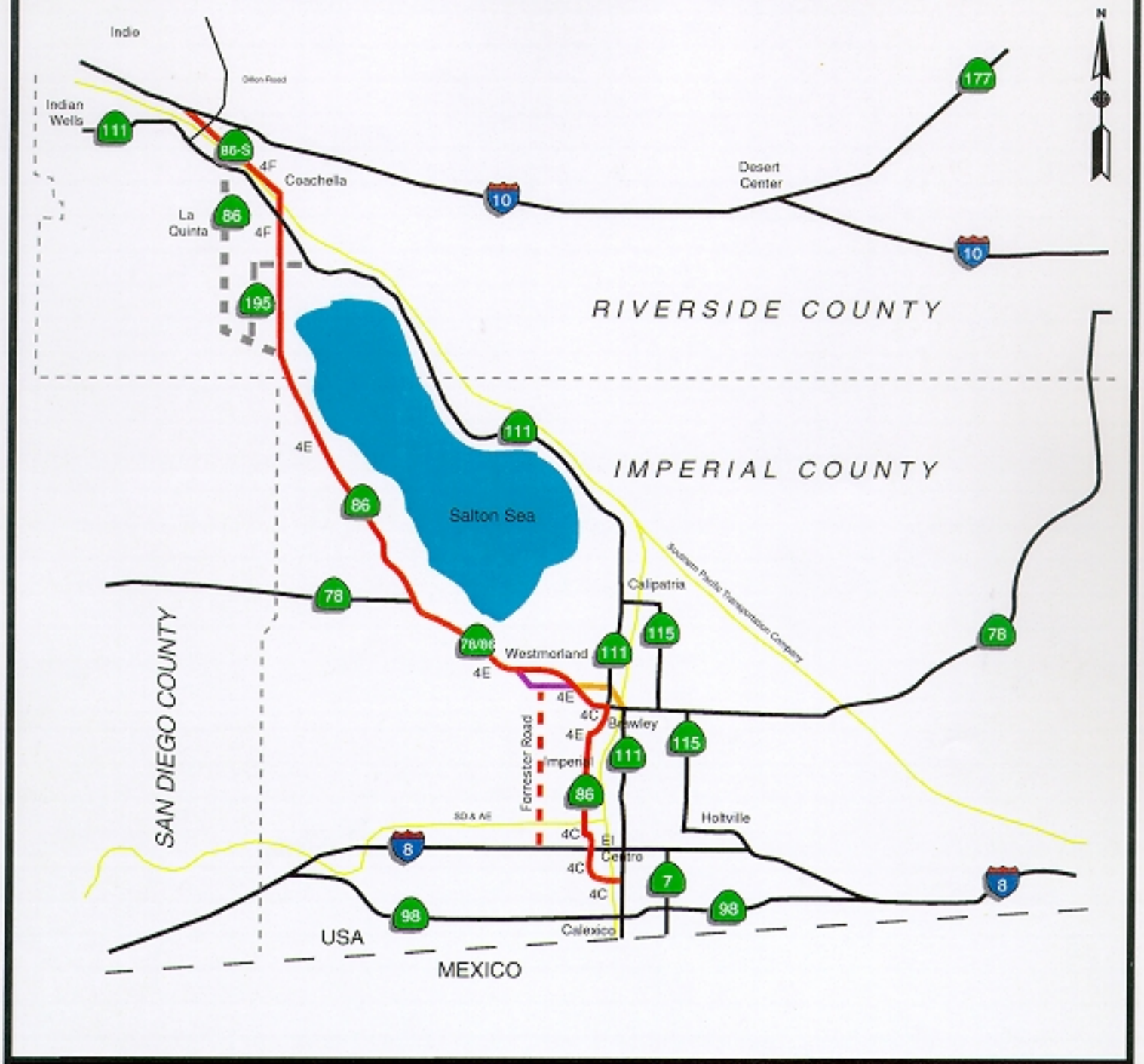
| Segment | County Post-Mile | Location | No. Lanes/ Facility Type | Minimum R/W Widths |
|---|---|---|---|---|
| 1 | IMP. R0.0 - 4.5 | SR-111 to McCabe Road | 4C | 148 |
| 2 | IMP. 4.5 - 6.0 | McCabe Road to I-8 | 4C | 148 |
| 3 | IMP. 6.0 - L7.3 | I-8 to Main Street | 4E | |
| 4 | IMP. L7.3 - 7.3 | Main Street to Imperial Avenue | 4E | |
| 5 | IMP. 7.3 - 8.8 | Imperial Avenue to Threshill Road | 4E | |
| 6 | IMP. 8.8 - 11.3 | Threshill Road to 14th Street | 4E | |
| 7 | IMP. 11.3 - 18.9 | 14th Street to County Road Route | 4E | |
| 8 | IMP. 18.9 - 20.6 | County Road Route to Old SR-78 | 4C* | 148 |
| 9 | IMP. 20.6 - 21.4 | Old SR-78 to Urban/Rural Limit | 4C | 148 |
| 10A | IMP. 21.4 - Est. 25.4 | Urban/Rural Limit to New East Junction SR-78 | 4E | |
| 10B | IMP. Est. 25.4 - 43.6 | New East Jct. SR-78 to West Jct. SR-78 | 4E | |
| 11 | IMP. 43.6 - 56.1 | West Jct. SR-78 to Borrego Salton Seaway | 4E | |
| 12 | IMP. 56.1 - 67.8 | Borrego Salton Seaway to RIV. County Line | 4E | |
| 13 | RIV. 0.0 - R2.4 | RIV. County Line to Avenue 82 | 4E | |
| 14 | RIV. R2.4 - R10.7 | Avenue 82 to Avenue 66 (SR-111) | 4E | |
| 15 | RIV. R10.7 - Est. 18.3 | Avenue 66 (SR-111) to Avenue 54 | 4F | |
| 16 | RIV. Est. 18.3 - R23.0 | Avenue 54 to I-10 | 4F | |

2C = Two Lane Conventional Highway
4C = Four Lane Conventional Highway
4E = Four Lane Expressway
4F = Four Lane Freeway
R/W = Right of Way

* This segment is 4E from P.M. IMP. 18.9 - 19.8

Note: Widths are in meters (feet ) and are shown for conventional highways only.

# STATE ROUTE 86
# ULTIMATE TRANSPORTATION CORRIDOR




LEGEND

- State Route/Interstate
- Brawley Bypass
- UTC SR-86/SR-86-S
- Westmorland Bypass
- Future State Route (Under Study)
- SR-86/SR-195 Relinquished
- Railroad

4C = 4-Lane Conventional Highway
4E = 4-Lane Expressway
4F = 4-Lane Freeway

District 11
System Planning Branch
January 1995
Not to Scale

## LIST OF SYSTEM PLANNING ACRONYMS

| | |
|---|---|
| ADT | Average Weekday Traffic |
| APCD | Air Pollution Control District |
| ATSD | Advanced Transportation System Development |
| CMP | Congestion Management Plan |
| CTC | California Transportation Commission |
| CVAG | Coachella Valley Association of Governments |
| CVEZA | Coachella Valley Enterprise Zone Authority |
| DOR | Division of Rail |
| DSMP | District System Management Plan |
| EA | Environmental Assessment |
| EPA | U.S. Environmental Protection Agency |
| GSA | General Services Administration |
| HOV | High Occupancy Vehicle |
| ICT | Imperial County Transit |
| ICTP | Imperial County Transportation Plan |
| IRRS | Interregional Road System |
| ISTEA | Intermodal Surface Transportation Efficiency Act |
| IVAG | Imperial Valley Association of Governments |
| LOS | Level of Service |
| LROP | Long Range Operations Plan |
| LRT | Light Rail Transit |
| MSL | Maintenance Service Level |
| MTDB | Metropolitan Transit Development Board |
| NAFTA | North American Free Trade Agreement |
| NHS | National Highway System |
| PHV | Peak Hour Volume |
| P.M. | Post Mile |
| POE | Port of Entry |
| PS&E | Plans, Specifications and Estimates |
| RCR | Route Concept Report |
| RCTC | Riverside County Transportation Commission |
| RME | Regional Mobility Element |
| RTIP | Regional Transportation Improvement Program |
| RTP | Regional Transportation Plan |
| R/W | Right of Way |
| SANDAG | San Diego Association of Governments |
| SCAB | South Coast Air Basin |
| SCAG | Southern California Association of Governments |
| SD&AE | San Diego and Arizona Eastern Railway |
| SD&IV | San Diego and Imperial Valley Railroad |
| SCAQMD | South Coast Air Quality Management District |
| SEDAB | Southeast Desert Air Basin |
| SEDSOL | Secretaria de Desarollo Social |
| SP | Southern Pacific Railroad |
| SPA | Specific Plan Area |
| STAA | Surface Transportation Assistance Act |
| STIP | State Transportation Improvement Program |
| TASAS | Traffic Accident Surveillance and Analysis System |
| TCM | Transportation Control Measures |
| TCR | Transportation Concept Report |
| TDM | Transportation Demand Management |
| TMA | Transportation Management Association |
| TOC | Traffic Operations Center |
| TPPS | Transportation Project Prioritization Study (CVAG) |
| TSM | Transportation Systems Management |
| UTC | Ultimate Transportation Corridor |
| V/C | Volume to Capacity |
| VMT | Vehicle kilometers (Miles) of Travel |

SMART CORRIDOR (Author's Definition) Employs technology to improve the operating efficiency of all the roadways within a corridor in order to reduce congestion.

## LEVEL OF SERVICE (LOS) DEFINITIONS

LOS is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. An LOS definition generally describes these conditions in terms of such factors as speed, travel time, freedom to maneuver, comfort and convenience, and safety. LOS definitions can generally be categorized as follows:

| LOS | D/C | Congestion/Delay | Traffic Description |
|---|---|---|---|
| | | *(Used for all conventional highways)* | |
| "B" | <0.45 | None | Free to stable flow, light to moderate volumes. |
| "C" | 0.46 - 0.65 | None to Minimal | Stable flow, moderate volumes, freedom to maneuver noticeably restricted. |
| "D" | 0.66 - 0.85 | Minimal to Substantial | Approaches unstable flow, heavy volumes, very limited freedom to maneuver. |
| "E" | 0.86 - 1.00 | Significant | Extremely unstable flow, maneuverability and psychological comfort extremely poor. |
| "F" | >1.00 | Considerable | Forced or breakdown flow. Delay measured in average travel speed (MPH). Signalized segments experience delays >60.0 seconds per vehicle. |
| | | *(Used for two and four lane freeways and expressways)* | |
| "A" | <.34 | None | Free Flow. |
| "B" | 0.35-0.52 | None | Free to stable flow, light to moderate volumes. |
| "C" | 0.53-0.69 | None to Minimal | Stable flow, moderate volumes freedom to maneuver noticeably restricted. |
| "D" | 0.70-0.92 | Minimal to Substantial | Approaches unstable flow, heavy volumes, very limited freedom to maneuver. |
| "E" | 0.93-1.00 | Significant | Extremely unstable flow, maneuverability and psychological comfort extremely poor. |

State Route 86

I approve this Transportation Concept Report as the guide for development of State Route 86 over the next 20 years.

Submitted By:

Carol Boland

CAROL BOLAND, Chief
System Planning Branch

3/13/95
Date

Recommended By:

Carl R West

CARL R. WEST
Deputy District Director
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3/13/95
Date

Approved By:

Gary L. Gallegos

GARY L. GALLEGOS
District Director

3-14-95
Date